Oil, Paint and Drug Reporter

THE CHEMICAL MARKET AUTHORITY

December 4, 1961

PROPIONIC ACID'S PUZZLING GROWTH

OPD SPECIAL 'DEPTH' REPORT PAGE THREE

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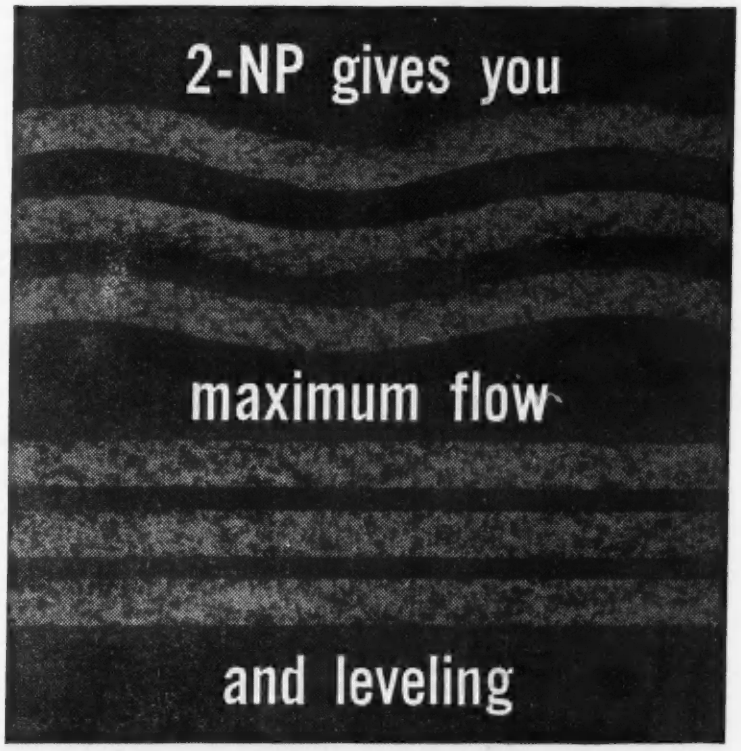

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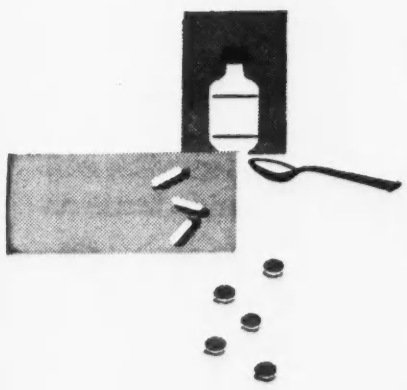

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Phillipsburg, New Jersey

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Oil, Paint and Drug Reporter

Vol. 180 No. 23 30 Church St., New York 7, N.Y. December 4, 1961

PROPIONIC ACID CONSUMPTION
New Uses Needed to Spur Growth

	1965	1960
Cellulose Propionates	14.2 million lbs.	12.0 million lbs.
Calcium Propionate	6.3 million lbs.	5.3 million lbs.
Sodium Propionate	3.9 million lbs.	3.3 million lbs.
Herbicides	5.8 million lbs.	5.0 million lbs.
Plasticizers	3.6 million lbs.	3.0 million lbs.
Pharmaceutical & Other	1.2 million lbs.	1.0 million lbs.
Total	35.0 million lbs.	29.6 million lbs.

Propionic Acid's Climb a Puzzler; It 'Jest Growed,' Though No One Knows Why or What's Due Next

Like Topsy in Harriet Beecher Stowe's melodrama, "Uncle Tom's Cabin," propionic acid "jest growed." The industry, looking at this almost accidental phenomenon, is somewhat perplexed as to why this growth (15.8 percent annually from 1954-1960) took place. Now, producers are even more puzzled about what might happen in the future. Was there any single factor responsible for the climb in output from 12.8 million pounds in 1954 to an estimated 31 million pounds this year? Probably not, say market observers, pointing to a number of interwoven causes for a general rise in consumption.

OPD 'Depth' Report

Early in the game, the sodium and calcium salts of propionic acid were the most important end-uses for the material. It all started with Ward Baking Company and E. I. duPont de Nemours & Co. some twenty-five years ago.

Propionate Mold Inhibitors

Ward found that the propionates were excellent inhibitors for mold and rope in the baking industry; that is, the salts inhibit formation of mold and rope in baked goods that would otherwise deteriorate before reaching the consumer.

DuPont, at Ward's behest, got into the business of making "Mycoban" calcium and sodium propionates at Belle, W. Va., and claims the major share of the market today despite competition from Celanese Corporation of America, Union Carbide Corporation, and a relative newcomer, Certified Proteins Corporation.

Propionate capacity is quite flexible, manufacture being by nature a fine chemical operation. ("All you need, as I recall, are an autoclave, a mixer and a filter," says one ex-producer—and there are several.)

DuPont probably has about 10 million pounds annual capacity for both salts at Belle; Celanese, 5 million at Bishop, Tex.; Certified Proteins, 2 million pounds at Jersey City, N.J.; Union Carbide, about

—Continued on page 44

*Propionate Capacities**

Celanese, Bishop, Tex.	5
Certified Proteins, Jersey City, N. J.	2
DuPont, Belle, W. Va	10
Hoffman-Taff, Inc., Springfield, Mo.	3
Union Carbide, Niagara Falls, N. Y.	3
Total	23

* Millions of pounds per year, for both calcium and sodium propionates. Equipment is such that each plant could turn out much more if needed.

PROPIONIC ACID OUTPUT FORECAST

1965	*35.0 million lbs.
1961	*31.0 million lbs.
1960	29.6 million lbs.
1959	28.3 million lbs.
1958	22.5 million lbs.
1957	18.5 million lbs.
1956	18.7 million lbs.
1955	17.2 million lbs.
1954	12.8 million lbs.

*Estimate

Source: Tariff Commission

Food Additives Trade Has a Query: Will 'Coat-Tail Riding' Hurt the Law?

Chemical producers, after almost three years of experience with the new food additives law, are starting to raise questions concerning its administrative procedures. They are wondering how long public confidence can be maintained in the law under present rules that permit one producer to ride the coat-tails of another in obtaining the right to market his product, without a formal showing of compliance with product specifications approved by Food & Drug Administration.

NEW APPOINTEE: Walter J. Dugan, just named manager of marketing for the chemical materials department of General Electric Company in Pittsfield, Mass.

The question came to light last week at a two-day joint conference of the FDA and the Food Law Institute, to discuss current regulatory and scientific problems under the food and drug law and its related legislation—chiefly food additives regulations and the labeling of hazardous household substances.

Kenneth E. Mulford, of Atlas Chemical Industries, Inc., Wilmington, Del., and chairman of the food additives committee of the Manufacturing Chemists' Association, brought up the matter in a presentation of this and another problem that concerns the chemical industry today.

Time, Personnel Lacks Cited

That is the ability of FDA successfully to meet its vastly increased responsibilities without adequate time and personnel for internal planning as well as for day-to-day operations.

He explained that prior to the food additives law in 1958, producers or users were responsible for their own manufacturing standards and specifications. Now this is changed.

Under the food additive regulations, a petitioner files with FDA all pertinent information relating to the chemical identity and composition of the additive, with specifications prescribing any reaction by-products.

If the additive is a mixture of substances, as many of them are, a list of all substances used in the synthesis is required. Mr. Mulford continued:

"Product specifications in FDA regulations are based on this information in the petition. Thereafter producers and users, other than the petitioner, determine whether their products are in compliance by referring to the specifications of the regulations.

"It is important to note in this connection that they are not bound in any way to produce their product in accordance with the synthesis or by the use of

—Continued on page 73

Polypropylene Fracas: Natta Versus Eastman?

Eastman Kodak Company's process and product claims for its new stereosymmetric polypropylene, just published in a Belgian patent, are drawing heavy criticism from Prof. Giulio Natta, Milan polymer chemist whose own isotactic polypropylene patent has been assigned to Montecatini of Italy.

The Belgian patent (No. 577,214), Prof. Natta says, claims a stereosymmetric polypropylene with both polymeric and side chains almost completely symmetric in all planes, a melting point of at least 180 degrees Centigrade and a tensile strength of at least 386 kilograms a square centimeter.

Prof. Natta, writing in the British publication *Rubber & Plastics Age*, says the stereosymmetric patent claim has no

—Continued on page 59

Bayer Planning Cutback In Capital Expenditures

Farbenfabriken Bayer AG, Germany's biggest chemical company, is budgeting a cutback in capital expansion for 1962 with plans for spending $105 million-$110 million against the record $120 million for 1961 and $101 million in 1960.

The company is forecasting 1961 sales volume for the consolidated group of about $900 million, but volume would have been substantially higher if prices had not fallen an average 3-4 percent in 1961 against an average decline for Bayer of 1.8 percent in 1960.

Bayer's rate of growth this year will be about 7 percent against 14.6 percent in 1960 and 22.3 percent in 1959.

Hooker Girds Itself For Stiffer Competition

Hooker Chemical Corporation has put together a diversification-keyed plan for sales and profits progress in what the now New York-based company expects to be a competitive era ahead for chemical makers.

A strengthening of prices may come next year, or the year after, but Hooker isn't betting on it. Rather, it expects, via research, to spread its base further into such high-profit "glamor" areas as chemicals for pulp bleaching, fire retardation and metal treating.

As spelled out by president F. Leonard Bryant, Hooker's plan will be backed up by "more ingenious and aggressive mar-

—Continued on page 40

IN MARKETING POST: E. Paul Wilkinson, appointed marketing manager for petrochemicals and special products by Union Texas Natural Gas Corporation.

Chemical Marketing Cues . . .

36 SULFUR: The switch to liquid molten material is catching on.

47 ETHYL ALCOHOL: No dramatics, just a 3 percent annual growth.

49 WATER PURIFICATION: Polymers eye mart dominated by inorganics.

50 CREOSOTE: Scramble on to offset dwindling railroad business.

Pesticide Men See Doomsday If Kefauver's Drug Bill Passes

Chemical pesticide manufacturers have grave fears of the consequences if congress enacts the Kefauver drug industry antitrust bill (S 1552) as now written. In the first place, they are afraid the bill might become the vehicle for Food & Drug Administration domination over labeling of the pesticide products. Secondly, they see the patent provisions spelling the end to new pesticide development by small companies.

The industry's concern over what might happen as a result of the legislation is expressed in a letter for the committee's records by Lea S. Hitchner, president of the National Agricultural Chemicals Association.

'Drug' Is a Broad Word

His concern arises from the fact that the term "drug" in the food and drug law includes a number of products of the chemical pesticide industry, such as those intended for control of parasites in animals.

He recognizes that none of these products would be subject to the Kefauver bill per se but adds:

"We have observed that when a particular regulatory system is imposed on one type of product under the FDA law, there is a strong inclination to impose that same type of regulatory control on other products regulated under related provisions of that law or allied laws.

"For example, the so-called Delaney clause relates to food additives regulated under section 409 of the FDA law. Nevertheless, the secretary has imposed the provisions of the Delaney clause in regulating pesticide residues under section 408 of the FDA law.

"Likewise, the requirements of section 409 of the food additives amendment relating to analytical methods have been transplanted and superimposed in regulating pesticide residues under section 408."

Mr. Hitchner recalls that congress recently enacted the federal hazardous substances labeling act, which is administered by the Department of Health, Education & Welfare.

He points out that the legislation specifically exempts pesticides subject to

—*Continued on page 33*

Magna Products Acquires Ownership of Ferro-Mart

Magna Products, Inc., a subsidiary of Thompson Ramo Wooldridge, Inc., has just acquired Ferro-Martin Company, Los Angeles, a maker of plastic coatings for industry.

With its main plant located in Santa Fe Springs, Calif., Magna specializes in oilfield chemicals, coatings, plastics and process instrumentation. Bert E. Martin, former owner of Ferro-Martin, will join Magna in charge of its research and development effort in plastic coatings.

Atlantic's New Process Cleans Up Oil Catalyst

A new process to cut costs of catalytic cracking, by using an ion-exchange resin to clean up the catalyst for reuse, will be made available to petroleum refiners by Atlantic Refining Company, Philadelphia.

Based on early results at its Philadelphia refinery, Atlantic expects to increase profits by $1 million a year through use of the new process—exclusive of licensing royalties.

The unit, called an "MET-X" plant, and located at Philadelphia, reportedly removes metal contaminants from forty tons of catalyst daily, making it "as good as new" for further cat-cracking, Atlantic says.

Unveiling the process last week, Dr. Robert R. White, vice-president and general manager of research and develop-

—*Continued on page 41*

Pfizer's Group in Britain To Stress Chemical Stake

To emphasize its stake in chemicals, the Pfizer group of companies in England has been organized into two divisions.

The parent concern, Chas. Pfizer & Co., New York, notes that there will now be a consumer products division—concerned with pharmaceutical, proprietary and agricultural products—and a chemical division, which will handle fine and industrial chemicals. Each will be controlled by a divisional board.

Vaccine production and research operations are not involved in the reorganization.

Kefauver Bill Opponents Are Up at Bat This Week

Drug and chemical industry opponents of the Kefauver bill, S 1552, get their turns at bat this week when the committee resumes hearings to record the testimony of Pharmaceutical Manufacturers Association witnesses and others.

What was originally scheduled as four days of testimony in opposition to the bill, starting Wednesday, December 6, has now been shortened to three days starting Thursday.

The tighter hearings schedule was made necessary because Senators Everett Dirksen of Illinois and Roman Hruska of Nebraska informed the committee that they would be unable to be present Wednesday because of prior conflicting engagements.

At the week's end, PMA had given the committee the names of nine witnesses it

—*Continued on page 57*

The Week's Price Changes

Castor Oil, Mineral Orange, Litharge, Silver, Zinc Advanced. Coconut Oil, Copra, Corn Oil, Cottonseed Meal, Tin Reduced.

Prices Advanced

Castor oil, Braz., ¼c. per lb. (p. 66).
Cocoa butter, 2½c. per lb. (p. 66).
Greases, ½c. per lb. (p. 66).
Lead monosilicate, ¼c. per lb. (p. 60).
Lead, red, ¼c. per lb. (p. 60).
Linseed meal, $1 per lb. (p. 66).
Litharge, ¼c. per lb. (p. 60).
Silver, bullion, 9⅜c. per lb. (p. 36).
Mineral orange, ¼c. per lb. (p. 60).
Tallow, inedible, ½c. per lb. (p. 66).
Zinc, metal, ½c. per lb. (p. 36).

Prices Reduced

Coconut oil, crude, ¼c. per lb. (p. 66).
Copra, $4 per ton (p. 66).
Corn oil, crude, 2½c. per lb. (p. 66).
Refd., 2½c. per lb. (p. 66).
Cottonseed meal, 50c. per ton (p. 66).
Cottonseed oil, crude, ½c. per lb. (p. 66).
Refd., ½c. per lb. (p. 66).
Lead, blue, basic sulfate, 1½c. per lb. (p. 60).
Lead, white, basic sulfate, 1½c. per lb. (p. 60).
Molasses, New Orleans, ¼c. per gal. (p. 47).
Peanut oil, crude, ¼c. per lb. (p. 66).
Refd., ¼c. per lb. (p. 66).
Soybean oil, crude ½c. per lb. (p. 66).
Refd., ½c. per lb. (p. 66).
Tallow, edible, ½c. per lb. (p. 66).
Tin, Straits, 1c. per lb. (p. 36).

OPD Price Index

THE OIL, PAINT AND DRUG REPORTER'S relative record of prices of chemicals and related materials is currently as follows:

(100=1949 average)

Dec. 4, 1961	Nov. 24, 1961	Dec. 3, 1961
113.67	113.67	108.80

Chemicals and Industry: A Team

As the industrial economy goes, so goes the chemical industry. At least, that is the way Charles B. Reeder, associate economist with E. I. duPont de Nemours & Co., looks at it. Expecting that total industrial production in 1962 will increase 8 to 10 percent over this year, Mr. Reeder offers a prediction: "Within this environment of economic expansion total chemical production in 1962 is expected to rise 8 percent to 10 percent over 1961 also."

"A parallel rise with industrial production next year is not inconsistent with the historical growth record of the chemical industry," Mr. Reeder contends.

Speaks at Pitt Conference

His comments were made last week at the eighth Pitt Conference on Business Prospects, held in Pittsburgh, Pa.

The chemical industry, Mr. Reeder explained, makes its greatest gains during recessions when other industries experience declines in output.

"In periods of recovery the chemical industry expands with, but usually not much more than, total industrial production. In 1958, total industrial production declined 8 percent from 1957, but chemical production remained unchanged. In 1959, when total industrial production rose 13 percent, chemical production rose 14 percent.

"The total production of industrial chemicals in 1962 is expected to increase by

—*Continued on page 68*

COMPANY HEAD: George H. Elliott, elected a director and president of Allied Chemical Canada, Ltd., Montreal-based unit of Allied Chemical Corporation. He succeeds Robert W. Atkinson, who is retiring.

Dow Moves to Expand Plastic Container Sales

Dow Chemical Company expects to expand its sale of blown plastics containers through four new producing locations in key market areas: Chicago; Baltimore, Md.; Tampa, Fla., and New York.

This is the first step in the expansion of the company's rigid container program announced earlier this year.

The facilities for production of Dow containers will be constructed and operated by Plas-Tainer Corporation, a Hoover Ball & Bearing Company subsidiary.

Dow also offers a plan under which Hoover will install Dow-owned facilities for the in-plant production of containers.

Sodium Perborate Tab Up

Becco Chemical Division of FMC Corporation is raising the price of sodium perborate 1.4 cents a pound, effective December 15 on spot and January 1 on contract. Reason given is increased costs. The material was cut a sharp 3½ cents a pound early this year, owing to heavy imports, and a modest one-half cent price recoup was put through October 1. The new schedule tabs truckloads at 15.1 cents a pound, up from 13.7 cents a pound.

Index to News and Market Reports

Association News

Chemical Market in West Analyzed.... 7
Chemists Slate Yule Affair in Phila..... 67
Nat'l Lead's Saunders Honored..... 39
P.A.'s Report..... 5

Government News

Agar Sold to Kellys America..... 5
FDA Acts on Labels for Reagents..... 7
Food Additives Men Question Law..... 3
GSA Inviting Uranium Bids..... 39
Hyoscine Sold to Penick by GSA..... 5
Kefauver Bill Opponents to Testify..... 4
Molasses Dumping Charge Rejected..... 5
Pesticide Men Fear Estes' Antitrust Bill. 4
Phosphorus Furnace Set by TVA..... 7
PHS Ships Polio Vaccine 54

Industry News

Alumina Unit Completed by Kaiser.... 7
Antara Reports on Sodium Isethionate... 68
Atlantic Has Oil Catalyst Cleaner..... 4
Barber Chemical Merged into Amsco.... 7
Carbic-Hoechst Offers New Dyes..... 59
Carbide Firm on PR Polyethylene Deal.. 5
Celanese Installing Computer..... 68
Chemicals and Industry: A Team 4
Chicago Molded Acquires Site..... 62
Crystalline Silica Available..... 36
Dow Expanding Plastic Container Facilities 4
Drug Counterfeiting Alleged..... 54
DuPont to Build Ammonia Plant..... 5
Eastman Opens Sales Office..... 68
Freeport Offers Sulfur Booklet..... 39
Hooker Girds for Competition..... 3
Jefferson Chemical Awarded Patents.... 68
Koppers Buys Into Building Firm..... 7
Magna Acquires Ferro-Mart..... 4
Methyl Carbamate Offered..... 41
Plastics Usage in Packaging Rising..... 7
Propionic Acid: 'Depth' Report..... 3
Capacities, Processes..... 44
Consumption by End-Area..... 3
Output Forecast 3
Propionate Capacities..... 3
Propionate Salts Usage..... 44
Propionic Acid's Growth Puzzles Trade. 3
Sodium Perborate Price Raised..... 4
Stauffer Has New PVC Pipe..... 62
Yttrium Intrigues Vitro. 5

International News

Bayer Planning Cutback in Spending.. 3
Drug Patents Scheme Wins Favor..... 5
DuPont Subsidiary to Handle Sales..... 68
Ethylene Unit Slated in Germany.....57
Japan Offers US Chemical Possibilities.. 5
Japanese Organics Output Estimated.... 5
Japanese Plastics: Output Estimates.... 42
Japanese Fibers: Output Estimates..... 43
Japanese Chemical Projections..... 5
Pfizer Expanding..... 54
Pfizer Reorganizes UK Chemical Units.. 4
PP of Eastman Draws Natta Fire..... 3
Sulfur, Gas Units Start in Canada..... 7

Personnel News

Allied's Canadian Unit Elects Elliott.... 4
General Electric Names Dugan..... 3
Girdler Promotes Benedict..... 7
Gulf Elects Carter, Graul..... 7
IFF's Stokes to Retire..... 59
Norda Appoints Amorosi..... 5
Olin Names Daly..... 5
Schering Advances Thompson..... 7
Union Texas Gas Names Wilkinson..... 3
Wica Chemicals Elects Lukman..... 55

Market Reports

Acids 36
Agricultural Chemicals 65
Aliphatic Organics 47
Aromatic Chemicals 59
Botanical Drugs, Gums 54
Coal Chemicals 50
Coating Materials 60
Drugs 53
Essential Oils 58
Fats & Greases 67
Fertilizer Materials 65
Fine Chemicals 53
Heavy Chemicals 36
Industrial Organic Chemicals 47
Metals Nonferrous 36
Naval Stores 61
Oil Cake and Meal..... 67
Oils 66
Paint Materials 60
Pesticides 65
Petrochemicals 47
Petroleum Derivatives 63
Protective Coating Materials 60
Spices 58
Trade Name Chemicals 49
Waxes 67

General Features

Advertisers' Index 73
Association Meeting Dates 34
Bids Wanted 56
Classified Advertisements 72
Coal Chemical Output 50
Crude Oil Stocks 63
Current Market Quotations 9
'Depth' Report 3
Editorials 34
Imports 56
Obituaries 41
OPD Price Index 4
OPD Reports From Europe..... 5
Washington Talks It Over..... 34

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OFFICER OF HIS FIRM: Leo J. Amorosi, appointed vice-president of Norda Essential Oil & Chemical Company. He continues with the essential oil, aromatic and technical sales divisions.

Yttrium: Is It Near Commercial Paydirt?

Is yttrium about to hit paydirt? Such a rare thing is this for a rare metal that the happy thought has Vitro Corporation of America all agog with excitement.

What has the New York-based company all worked up is a paper presented last week before the American Society of Mechanical Engineers which reported that yttrium is an excellent nodularizer for cast iron and that it has important technical advantages over two lower-priced competitive metals: cerium and magnesium.

Vitro is one of two US producers of yttrium (the other: Atomic Energy Commission). Michigan Chemical Corporation, St. Louis, Mich., did produce the metal at one time, but reportedly is not doing so now.

J. J. Kanter and two of his associates from the Crane Company, Chicago, told ASME in New York that yttrium is a promising material in high-strength, high-ductility nodular castings because:

- It may be added to molten iron without flash, giving a high recovery in the castings.
- It has a lower sensitivity to chill factors.
- It has a wide range of effective concentration.
- Of its short cycle response to heat treatment.
- Of its retention effect upon remelt.
- Less control of process is needed.
- There is little disruption of foundry routine where continuous nodular production is not employed.

Despite its present price of $200 a pound (versus $3 a pound for cerium

—Continued on page 33

Agar Figure of 61 Cents Wins for Kelly's American

Kelly's American, Ltd., New York, was the successful bidder last week for 13,600 pounds of agar offered from the national stockpile by General Services Administration.

The concern, which was one of three bidders for the material, offered the government 61 cents a pound and won the contract. The other bidders were Meer Corporation, New York, which offered 40 cents a pound, and Moorehead & Co., Los Angeles, which offered 31 cents a pound for one lot and 41 cents a pound on the other lot.

Japanese Chemicals Industry, Growing by Leaps and Bounds, Offers Three Attractions to US

The Japanese chemical industry, growing by leaps and bounds, offers three key attractions to the US: a good market for processes and know-how; an attractive area for joint ventures, and a fruitful field for the US research dollar. This is the sales pitch offered for the Japanese chemical makers by Ryoji Negishi, director of Nippon Petrochemicals Company, Tokyo. Mr. Negishi told the Chemical Market Research Association meeting in San Francisco last week that while his country is rapidly developing know-how of its own, it is in need of foreign processes in order to maintain its explosive growth rate.

Another report on last week's CMRA meeting in San Francisco appears on page 7.

The Nippon Petrochemicals director also sounds the siren song for US investors. Citing Japan's economic potential, stability and available technical skill, he points out that these are attractive to joint ventures.

The idea behind this, he says, is not only for Americans to protect markets already established in Japan, but to develop and expand markets in Southeast Asian countries.

Japanese Organic Chemicals*

	1970	1965	1961
Acetaldehyde	426.9	258.2	200.0
Acetic acid	258.1	159.0	126.1
Acetone	131.5	72.6	49.4
Acetylene	623.2	511.7	435.7
Alkylbenzene	96.0	68.0	51.0
Benzene	635.3	369.4	265.2
Butadiene	166.0	117.0	82.0
Butanol	92.4	58.4	44.1
Ethyl acetate	64.0	38.0	29.0
Ethylene	1,515.0	609.0	339.0
Methanol	832.4	510.0	382.4
Octanol	65.0	47.2	37.2
Phenol	160.7	95.7	72.2
Phthalic anhydride	143.8	103.6	85.9
Propylene	906.0	396.0	199.0
Styrene	218.0	118.0	87.0
Toluene	280.3	156.0	120.4
Xylenes	172.3	109.7	80.3

* Thousands of metric tons. Ministry of International Trade & Industry output estimates, adjusted for correction of capital investment to improve balance of payments.

Further, he invites US chemical producers to sink their research dollars into Japanese efforts. "The Japanese possess the ability to think and work independently," he points out, "and they are, moreover, enterprising people."

Shifting gears from cooperation to competition, Mr. Negishi warns of future keen competition between the chemical industry on the US West Coast and the Japanese producers.

Japanese Chemical Yardsticks*

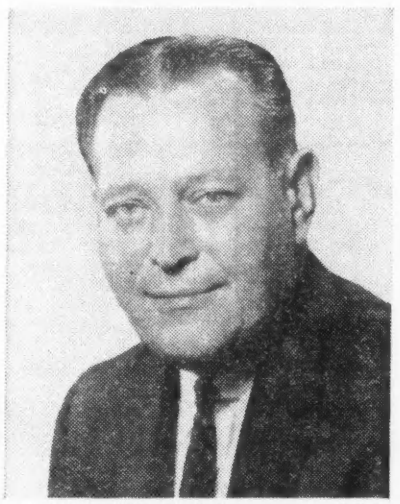
	1970	1965	1961
Synthetic rubber	290.0	181.5	90.0
Sulfuric acid	6,920.0	5,690.0	4,790.0
Ammonia, total	2,070.0	1,840.0	1,443.0
Industrial	680.0	465.0	300.0
Fertilizer	1,390.0	1,375.0	1,143.0

* Thousands of metric tons. Ministry of International Trade & Industry output estimates, adjusted for correction of capital investment to improve balance of payments.

"Because of such factors as transportation costs and geographic limitations," he says, "the size of chemical and petrochemical plants on the West Coast, except for those built by large companies, has been limited to the markets principally West of the Rocky Mountains.

"However, with the tremendous growth of population and its strategic position with respect to Southeast Asia, the size

—Continued on page 42



IN SELLING JOB: W. B. Daly, appointed field sales manager in the organics division of Olin Mathieson Chemical Corporation.

DuPont Sets Facility For Ammonia in Texas

E. I. duPont de Nemours & Co.'s big nylon intermediates operation at Victoria, Tex., is slated to get a captive source of ammonia, the major raw material. DuPont will start construction of an ammonia facility at Victoria in 1962, and expects completion in late '63.

The Victoria plant has produced adiponitrile, an ingredient of nylon, since 1951. Adiponitrile capacity is undisclosed, but duPont has announced several expansions.

Earlier this year, the Victoria plant successfully started up a new unit for manufacture of low density polyethylene.

DuPont, a large user of ammonia, presently turns out ammonia at two other locations—Belle, W. Va., and Repauno, N.J.

DuPont's new polyformaldehyde resin, "Delrin," is based on ammonia through synthesis to methanol and then formaldehyde.

Hyoscine Goes to Penick On a High Bid of $10.75

General Services Administration last week sold off its 1,680 ounces of hyoscine, which were excess to stockpile needs, to S. B. Penick & Co., New York, for $10.75 an ounce.

Four other firms sought the contract. They were: Buroughs Brothers Manufacturing Company, Baltimore, Md., which offered 12 cents an ounce; Chemical Commodities, Inc., which offered 51 cents an ounce for one lot and 62 cents an ounce for a second lot; Chemical Services Corporation, New York, which offered $1.52½ an ounce; and Walker Chemicals, Inc., Mt. Vernon, N. Y., which offered $6.30 an ounce.

Report From Europe

Drug Patents: A Middle Way Sought in UK

A middle way for the patent life of drugs—somewhere between the Italian barrier to any patents at all and the British long-term patent monopoly—is being suggested by Sir Harry Jephcott, chairman of Britain's Glaxo Laboratories.

The scheme is attracting favorable comment in some London financial and industrial quarters, although other drug industry leaders have so far been silent on its merits.

It may also attract considerable attention in the Common Market as one solution to the drug patent "disharmony" stemming from Italy's law and it could even echo in the chambers of Sen. Estes Kefauver in Washington.

Foreign Buying: A 'Disaster'

Sir Harry describes the UK Minister of Health's decision to purchase and import drugs from unlicensed Danish and Italian producers as a possible "disaster" for the British industry.

His scheme is an attempt to offer the minister an alternative way to introduce competition into the drug price picture, without threatening the patent basis of the industry.

He suggests, as a possible alternative, a change in basic British patent law to eliminate the sixteen-year life on drug patents, which he considers unnecessarily rigid in present-day circumstances.

The life of a drug patent would be related to its medical importance, the cost and effort required in discovering and developing it, the breadth of its applications and the quickness with which the discovering firm can obtain a fair return for its efforts.

Under Sir Harry's proposal, a procedure would be developed in Britain under which all patents on pharmaceuticals could be forced open for obligatory licensing after varying periods of time, dependent on the particular drug.

In his comments, Sir Harry says the

—Continued on page 13

Carbide Follows Through On PR Polyethylene Deal

Union Carbide, Inc., a subsidiary of Union Carbide Corporation, has filed with the Department of Commerce to establish a foreign trade sub-zone in Puerto Rico for production by Carbide of polyethylene.

About a year ago Carbide announced it was planning a multi-million dollar polyethylene facility in Puerto Rico.

Creation of such a zone would permit the company to buy raw materials duty-free from foreign suppliers, and to export finished products free of excise taxes.

Carbide's proposed sub-zone site consists of approximately 165.27 acres of land in the vicinity of Penuelas, which is near Ponce, where Carbide already produces ethylene glycol, using feedstocks from the Commonwealth Oil Company refinery there.

For the polyethylene venture, the company would like to import light virgin naphtha as raw material, and also utilize the Commonwealth Oil refinery materials.

Molasses Not Dumped; The Treasury Says So

The Treasury Department has rejected complaints that Cuban molasses was being dumped into the United States earlier this year in violation of the anti-dumping law.

Only two arrivals have come to the US this year, one being the celebrated shipment to Publicker Industries, Inc., which drew protests from the White House and resulted in an agreement for the Department of Agriculture to sell surplus grain as a replacement for the molasses.

Treasury says its investigations show the prices paid for the molasses by the importers was comparable to the price prevailing in Cuba at the time of purchase.

P.A.'s Look at Business and Find It Is Just So-So

Spotty weaknesses continue to plague business as it struggles to achieve the expected good fourth quarter. While a tone of optimism prevails, purchasing executives report a lack of zip in the upward trend. The short-term outlook is described as promising; however, no boom is as yet in the making.

New orders and production figures indicate a pause in the rate of improvement similar to that seen in July and August, as a majority of those reporting "Better" last month move to the "Same" column this month. It is encouraging that those reporting new orders "Better" still outnumber those reporting "Worse" almost 3 to 1.

New Orders	*Better*	*Same*	*Worse*
November	35	52	13
October	51	36	13
Production			
November	31	50	19
October	51	35	14

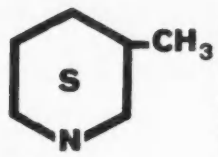
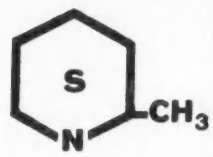
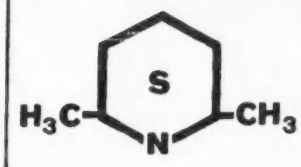
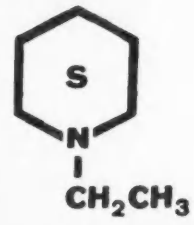
The business survey committee members sound an additional encouraging note in replying to a special inquiry concerning their hopes for retail Christmas sales this year: 52 percent look forward to an improvement over 1960, and only 6 percent say business activity will be lower; 42 percent feel that this holiday season will be about the same as last year. When polled last year, only 20 percent predicted improvement over 1959 and 25 percent were resigned to lower sales.

Upward pressures on prices persist, but to a lesser degree than reported last month. A solid 74 percent report no change, up from 72 percent; 16 percent

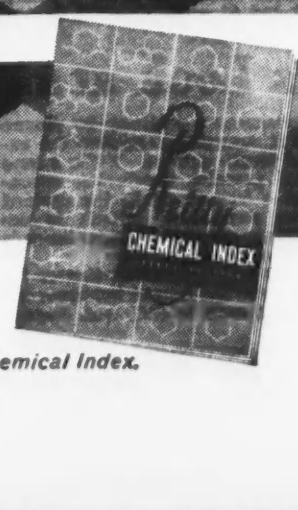
—Continued on page 62

This report was prepared by the Business Survey Committee of the National Association of Purchasing Agents.

REILLY PIPERIDINES

	PIPERIDINE	3-METHYL-PIPERIDINE	2-METHYL-PIPERIDINE	2, 6-DIMETHYL-PIPERIDINE	N-ETHYL-PIPERIDINE
					
PHYSICAL CONSTANTS OF THE PURE COMPOUND					
Molecular Weight	85.15	99.17	99.18	113.21	113.2
Boiling Point at 760 mm. Hg.	106.3°C.	124.8°C.	118.2°C.	127.9°C.	130.7°C.
Freezing Point	—11.0°C.	—24°C.	—4.2°C.	—	—
Specific Gravity 20°/20°C.	0.8602	0.8457	0.8401	0.8199	0.8255
Refractive Index n_D^{20}	1.4525	1.4466	1.4457	1.4383	1.4429
Solubility in water at 20°C.	In all proportions	In all proportions	In all proportions	In all proportions	6.2 grams are soluble in 100 grams water
		SPECIFICATIONS			
Purity, Min.	99%	98.5%	98%	98%	98%
Assay, Min.	99% $C_5H_{11}N$	98.5% $C_6H_{13}N$	98% $C_6H_{13}N$	98% $C_7H_{15}N$	98% $C_7H_{15}N$
Freezing Point of Dried Sample, Min.	—11.4°C.	—	—	—	—
Water Content, Max.	0.2%	—	—	—	0.1%

These five Piperidines and many other Pyridine derivatives are available from Reilly.



REILLY TAR & CHEMICAL CORPORATION

1615 MERCHANTS BANK BUILDING • INDIANAPOLIS 4, INDIANA

Write for your copy of the Reilly Chemical Index.

WORKING SIDE BY SIDE: Charles E. Carter (left) and William A. Graul (right), appointed associate directors of commercial development in the petrochemicals department of Gulf Oil Corporation, Pittsburgh, Pa. Mr. Carter will handle projects being considered for commercialization. Mr. Graul will manage technical development of new petrochemical processes and products. Both will be located at Gulf's headquarters in Pittsburgh.

FDA Acts on Labels for Reagents, But Holds Off on Solvents, Alcohol

Food & Drug Administration has modified its requirements on precautionary labeling, under the new hazardous substances labeling law, on at least one product group important to the chemical industry—reagent chemicals. Word is still being awaited, however, for a change in requirements on another class of products that are considered equally important to the industry—proprietary solvents and specially denatured alcohol.

ADVANCES: John W. Benedict, promoted to assistant general manager of Girdler Catalysts, a Louisville, Ky., unit of the chemical products division of Chemetron Corporation.

The FDA announced last week that after reviewing objections and the problems, it has decided to exempt laboratory chemicals from the requirement that the precautionary legends demanded for poisons and other hazardous substances must appear on the front panel of the product label.

A Side Panel Is Good Enough

It will be enough that this information appears on a panel immediately adjacent to the main panel of the label.

In making this ruling, FDA said it is giving recognition to the fact that chemical substances labeled, marketed and employed principally for laboratory use, but which may under some circumstances be used in the household, are normally purchased only by those who are well aware of their hazardous nature.

Also, it was added, it is desirable that the main panel labeling be used to permit the name, purity, chemical formula and physical state of the chemical to be printed in large type so as to avoid confusion between two or more chemicals having similar names.

The matter of exempting proprietary solvents and specially denatured alcohol from the hazardous labeling law regulations, however, is still under study by the agency. There is no indication when a ruling might be forthcoming.

The exemption request was filed on be-

—Continued on page 72

Phosphorus Capacity: A Furnace for the TVA

Tennessee Valley Authority, aware that private phosphorus producers are steadily putting in furnace capacity, has just started constructing a new furnace of its own at the TVA fertilizer-munitions development center in Muscle Shoals, Ala.

The furnace, a 25,000-kilowatt rotating electric installation, will cost $3 million and is scheduled for operation early in 1963.

Maximum annual production of the new furnace will be 16,000 to 17,000 tons of elemental phosphorus, or twice the capacity of any furnace presently operated by

—Continued on page 41

Alumina Products Unit Is Completed by Kaiser

Expansion of facilities for the manufacture of tabular alumina products has been completed at Kaiser Aluminum & Chemical Corporation's Baton Rouge, La., works, increasing five-fold the company's capacity to produce the chemically inert and highly dense aluminum oxide.

Completion of the $750,000 expansion project marks another step in the company's program for special alumina products, which has included construction of an alumina hydrate plant and an active alumina facility at Baton Rouge.

Chemical Market of the West Called Section-by-Section Area That's All One Big Potential

Out where the west begins, the market for chemicals has a character of its own, and last week the Chemical Market Research Association's meeting in San Francisco heard all about it on a section-by-section basis. But then, as Leland A. Doan, general manager of the western division of Dow Chemical Company, put it, the sectional markets are mere contributors to the western potential, and it's the overall market that really counts.

Dealing with only one part of the western market, Mr. Doan presented a paper entitled, "Chemical Requirements of the San Francisco Bay Area," in which he had this to say:

Another report on CMRA's meeting in San Francisco last week appears on page 5.

"In the first place, it is impossible to give you an overall, detailed statistical picture that would really mean anything of importance to you. Many a market depends on special circumstances, price situations, and the decisions of foreign producers to ship or not to ship through this port.

Emphasis on 'Overall' Picture

"In other words, the size of this market, item by item and pound by pound is of much less importance than the size of the overall western market.

Mr. Doan pointed out that a study of market forces is essential. The forces may change in detail, he explained, but their basis will often continue to be in the geography and climate and history of the marketing area.

Edward W. Lentz, vice-president and general manager of Western Phosphates, Inc., counted up the ten most popular chemicals used in the Rocky Mountain area. This is the way he placed them: sulfuric acid, calcium hydroxide, sulfur, gypsum, phosphoric acid, anhydrous ammonia, ammonium nitrate, nitric acid, sodium hydroxide and ammonium sulfate.

Viewing the area as a unit, Mr. Lentz said, "Industrial chemical consumption in the eight Rocky Mountain states is growing steadily, but not spectacularly."

"Except for sulfuric acid," he went on, "the total volume is minor in comparison with that of major consuming areas. The industrial chemicals used are mainly inorganic and are associated primarily with the processing of minerals including uranium and with fertilizer production.

"Plastics, synthetic fibers and petro-

—Continued on page 55

IN TECHNICAL POST: Dr. Robert E. Thompson, appointed director of the pharmaceutical research and development division of Schering Corporation.

Sulfur and Gas Units Start Operations North of Border

Jefferson Lake Petrochemicals of Canada, Ltd., has started operation of two Canadian gas processing plants. The Canadian subsidiary of Jefferson Lake Sulfur Corporation is the operator of a sour gas processing plant near Calgary, Alta.

The $13 million installation's gas processing capacity is 150 million cubic feet per day for the manufacture of 107 million cubic feet of commercial pipeline gas, 2,200 barrels per day of stabilized condensate and 875 long tons per day of elemental sulfur.

The plant is owned by Petrogas Processing, Ltd., which in turn is held largely by Jefferson Lake Petrochemicals of Canada, Ltd., and Mobil Oil of Canada, Ltd. Mobil has offered to purchase the condensate and Jefferson Lake will market the sulfur.

At the same time, the company has announced start-up of operations at its Coleman, Alta., plant, which will make sulfur from the hydrogen sulfide gas it obtains from the adjacent Saratoga gas processing plant.

Barber Chemical Put Under Amsco Banner

W. H. Barber Chemical Company, Minneapolis, Minn., was merged last Friday (December 1) into American Mineral Spirits Company, Murray Hill, N.J.-based division of Pure Oil Company. The plan is for Barber to operate under the Amsco name.

The Barber firm was formed fifty-five years ago and has been an outstanding organization in the north central states area in the marketing of industrial chemicals, petroleum solvents, agricultural chemicals, and consumer products for home and industry.

Amsco was established in the early twenties and now operates in the solvents field operating from coast to coast.

The Barber plant occupies property in southeast Minneapolis, where numerous tanks are provided for storage of nearly a half-million gallons of solvents and chemicals. Warehouse space provides for maintenance of large inventory stocks for

—Continued on page 59

Koppers Shows Interest In Factory-Built Homes

In a move to accelerate marketing of "Dylite" plastic foam, Koppers Company has purchased a 50 percent stock interest in General Industries, Inc., a major builder of factory-built homes. Amount paid in the cash transaction was undisclosed.

Fletcher L. Byrom, Koppers president, says the move was made to speed up introduction to the housing market of "Dylite" expandable polystyrene foam, which has been developed as an insulation core for sandwich-type building panels.

Koppers will have 50 percent representation on the board of General Industries, which operates under the name of General Homes. William B. F. Hall, formerly sole owner of the company, will continue as president.

Plastics and Aluminum: More and More Packages

To a plastic film man, or to an aluminum foil man, the future looks good as far as the making of packaging materials is concerned.

The film man—Frederick W. Tranfield, New York district manager of packaging sales in the film department of E. I. duPont de Nemours & Co.—says that when the 1961 figures are all in, sales should come to about $470 million.

Mr. Tranfield compares this to a mere $165 million in 1950, but then points happily to an estimate of $700 million by 1970.

The aluminum man—Paul Murphy, vice-president of Reynolds Metals Company—points out that sales of aluminum for containers and packaging this year will total $250 million.

Mr. Murphy feels that if the aluminum industry concentrates its research and development efforts in the right areas, the growth potential in the packaging field is extremely encouraging.

The speakers made their predictions last fortnight at a seminar on "The Evolution and Future of Packaging," sponsored by Interchemical Corporation and held under the auspices of the New York Society of Security Analysts.

Mr. Tranfield told the group that the tremendous potential for transparent films provides room for many kinds of growth. He then added that we know only one thing for certain about the packaging problems of the next ten years: They will grow more diverse.

Since there will never be an "all purpose" packaging film, he declared, specific film types must be built providing properties for specific applications.

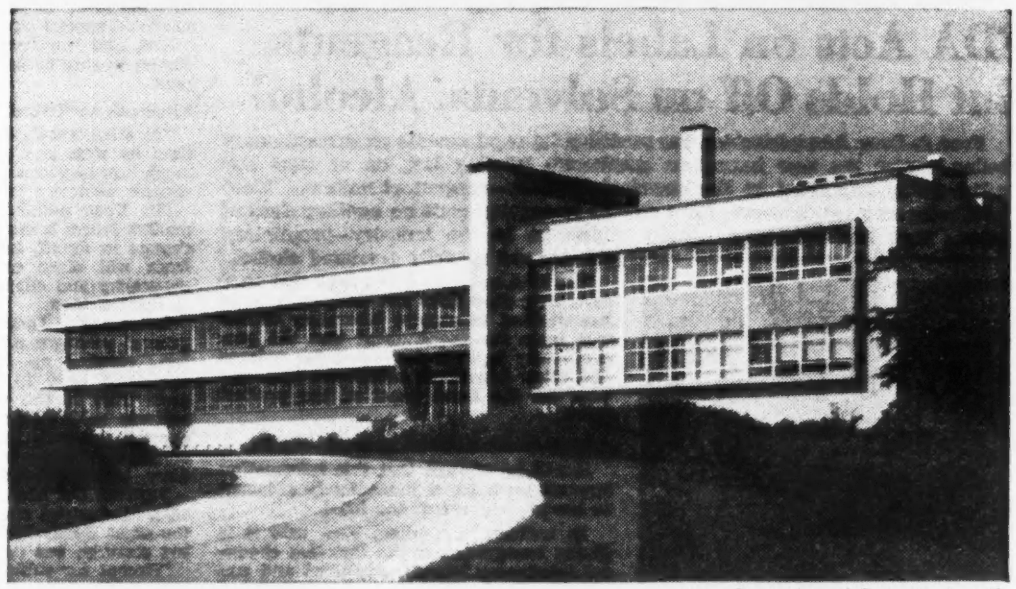
Thus, Mr. Tranfield concluded, as the continuing research efforts of the industry create new films and modifications of

—Continued on page 68

Meeting Dates
May Be Found
On Page 34

For quality basic and specialty chemicals...

For problem-solving tech service...



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CHEMICALS AND RELATED MATERIALS

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Current MARKET Quotations

Unless otherwise indicated, listings are first-hand quotations prevailing, according to information and belief, December 1 on large lots, f.o.b. New York, with the lowest in the left-hand column and the highest in the right-hand column. The listings do not represent bid and asked prices nor a range over the week. Differences between high and low many be accounted for by differences in quantity, quality, locality, or individual suppliers' views. An index to the weekly market reports is to be found on page 4.

A

Abies siberica oil cns. ..... lb. 1.90 2.40
Acacia (see Arabic gum).
Acetaldehyde, 99%, dms., c.l., frt. alld lb. .12 - —
dms., l.c.l., frt. alld ..... lb. .13½- —
tanks, frt, alld ..... lb. .10 - —
Acetaldehyde prices 1c. higher in West.
Acetaldol (see Aldol)
Acetanilide, tech, flaked, bbls., bgs., c.l., frt alld lb. .32½- —
bbls. bgs. ton lots, frt. alld. lb. .33½- —
bbls. bgs. smaller tots, frt. alld lb. .36½- —
USP bbls. 225-lb dms. any quantity lb. .90 - —
100-lb. dms., any quantity lb. .92 - —
Acetic acid comi. or redist., 28%, bbls 100 lbs. 4.80 - —
56%, bbls. ..... 100 lbs 8.25 - —
70%, bbls. ..... 100 lbs 9.95 - —
80%, bbls. ..... 100 lbs.10.45 - —
glacial, syn., CP, dms., c.l., dlvd. E 100 lbs. 18.75 - —
tech., dms., c.l., dlvd E 100 lbs. 13.75 - —
dms., l.c.l., dlvd. E 100 lbs. 15.25 - —
tanks, dlvd. E 100 lbs. 10.00 - —
USP, tanks, dlvd. E 100 lbs. 13.00 - —
Acetic anhydride, aluminum ret. dms., c.l., dlvd E lb. .16½- —
aluminum ret. dms., l.c.l., dlvd E. lb. .18 — —
tanks, dlvd. E. lb. .14 - —
Acetic anhydride prices 1c. higher in West.
Acetoacetanilide, fib. dms., c.l., dlvd lb. .70 - —
fib. dms., l.c.l., dlvd ... lb. .71½- —
Acetoacet-o-chloroanilide, fib. dms., c.l., dlvd lb. 1.25 - —
fib. dms., l.c.l., dlvd .. lb. 1.26 - —
Acetoacet-o-toluidide fib. dms., c.l., dlvd lb. .73 - —
fib. dms., l.c.l., dlvd ..... lb. .74½- —
Acetone, CP, dms., c.l., dlvd . lb. .09½- —
dms., l.c.l., dlvd ..... lb. .11 - —
tanks, dlvd. ..... lb. .07 - —
Acetonitrile, dms., c.l., frt. alld. lb. .37½- —
dms., l.c.l., frt. alld ..... lb. .39 - —
tanks, frt. alld ..... lb. .35 - —
Acetophenetidin, USP, powd., 200-lb. dms., 1,000 lbs., frt. alld lb. 1.20 - —
100-lb dms. 1,000 lbs. frt. alld. lb. 1.22 — —
Acetophenone, cns. dms ..... lb. .42 1.30
Tech., dms., c.l., works..... lb. .32½- —
dms., l.c.l., works ..... lb. .34 - —
tanks, works ..... lb. .30 - —
N-Acetyl-p-aminophenol, dms., t.l. (min. 25,000 lbs.), frt. adjusted lb. 1.30 - —
dms., 1,000-lb. lots, same basis lb. 1.40 - —
dms., 100-lb. lots, same basis lb. 1.54 - —
Acetylene black imp., bgs., c.l., duty and freight extra lb. .20 — —
cs., l.c.l., ex whse lb. .25½- .31
Acetylene tetrabromide, 16-dm. lots or more, f.o.b. works lb. .53 — —
Acetylsalicylic acid, USP, cryst (20, 40 mesh), powd (80 mesh) 250-lb dms. c., pt. of shipt lb. .56¼- —
USP 10% starch granulation, 12-50 mesh white, 250-lb. dms c.l., same basis lb. .56¼ —
(Pink and green granulations 5c. per lb higher.)
Freight equald shipt identical quantity over standard routes, from N.Y., Phila, Midland, Mich., Chicago and St. Louis
Acetyltributyl citrate, tech., non ret dms. c.l. frt. alld. E of Denver lb. .34 - —
non-ret. dms., l.c.l., same basis lb. .36 - —
tanks, same basis lb. .31½- —
Acetyltriethyl citrate, tech., non-ret. dms c.l. frt. alld. E. of Denver lb. .38 - —
non-ret dms., l.c.l., same basis lb. .40 - —
tanks, same basis ..... lb. .35½- —

ACIDS
Acid quotations are listed individually. For example, prices on Acid, cresylic, may be found in the C's under Cresylic acid.

Aconite root, bls lb. .50 .55
Acrolein, tech., dms., c.l., works lb. .36 — —
dms., l.c.l., works ..... lb. .36¾ - —
tanks, works ..... lb. .31 - —
Acrylamide, dms t.l., f.o.b. works. lb. .58 — —
dms. t.t.l. same basis lb. .60 - —
Acrylic acid, glacial, dms., c.l., t.l., dlvd lb. .42½- —
dms., l.c.l., t.t.l., dlvd ..... lb. .43½- —
tanks, dlvd ..... lb. .40 - —
tech., esterification, tanks, frt. alld lb. .38 — —

Abies Siberica Oil—Ammonium Bromide

Acrylic acid, tech., polymerization, tanks, same basis lb. .33 - —
Acrylonitrile, dms., c.l. t.l., works lb. .17½- —
dms., l.c.l., l.t.l., same basis ... lb. .18½- —
tanks, same basis ..... lb. .14½- —
Adeps lanae (see lanolin).
Adipic acid, bgs., c.l., dlvd..... lb. .29 - —
bgs., l.c.l., dlvd. ..... lb. .31¼- —
Agar, USP, Kobe No. 1, strip, bls. lb. 2.60 - 2.30
powd., 30 mesh., fib. dms lb. 2.40 - 2.60
dl-Alanine, dms. 100-lbs or more, f.o.b works lb 5.25 - —
dms. 1-99 lbs., same basis lb.10.00 - —
Aldol, 95%, dms., l.c.l., works lb. .28 - —
Aldrin, tech. fib dms. c.l., t.l. dlvd lb. .99 - —
fib dms. l.c.l. dlvd lb 1.04 - —

ALCOHOLS
Alcohol quotations are listed individually For example, prices on Alcohol, furfuryl, may be found in the F's under Furfuryl alcohol

Aletris root, bgs ..... lb 1.50 1.75
Algin (see Sodium alginate)
Alizarin (see 1,2-Dihydroxy anthraquinone).
Alkali blue dry, 250-lb. bbls., dlvd. E. of Rockies lb. 2.45 - —
Alkali blue prices 1c higher W. of Rockies
Allethrin, 90%, dms., frt. alld lb.28.80 -28.90
Soln. 20% dms. 200-2,000 lb lots. frt alld lb. 6.50 6.55
2½% dms frt alld lb. .95 1.10
Allspice oil (see Pimento oil).
Allyl alcohol, dms. c.l. dlvd. lb. .32½- —
dms., l.c.l., dlvd. lb. .34 - —
tanks, dlvd. lb .30 - —
Allyl bromide 55-lb. chys 5,005 lbs or more, works lb 1.50 - —
55-lb chys., 1,045 to 4 ... lbs works lb. 1.55 - —
55-lb chys., 55 to 990 lbs works lb. 1.60 - —
Allyl chloride, dms. c.l., dlvd lb 17½- —
dms., l.c.l., dlvd lb. .19 - —
tanks, dlvd lb. .15 - —
Allyl isothiocyanate (see Mustard Oil, syn.).

Abbreviations
Used in OPD Market Quotations

alld	allowed	distr.	distributor	No.	number
amorph	amorphous	djns.	demijohns	nom.	nominal
AMP	American melting point	dlvd.	delivered	o-	ortho
		dms.	drums	ord.	ordinary
anhyd.	anhydrous	dom.	domestic	oz	ounce
AOAC	Association of Official Agricultural Chemists	E	east	p-	para
		e.p.	end point	Pac.	Pacific
a.p.a.	available phosphoric acid	equald.	equalized	pf	proof
		exp.	expressed	phos.	phosphate
approx.	approximately	Ext.	external	photo.	photographic
artif	artificial	F	fahrenheit	pkgs.	packages
ASTM	American Society for Testing Materials	ferment	fermentation	powd.	powdered
		f.f.a.	free fatty acid	precip.	precipitated
Atl.	Atlantic	f.f.c.	free from chlorine	prod.	producer
Be.	Baume	fib.	fiber	pt	point
bbls.	barrels	f.o.b.	free on board	pulv.	pulverized
bgs.	bags	f.p.a.	free of prussic acid	purif.	purified
bls.	bales	frt.	freight	redist.	redistilled
bots.	bottles	gal.	gallon	refd.	refined
b.p.	boiling point	gran.	granular	refy.	refinery
b.p.l.	bone phosphate of lime	grd.	ground	reg	regular
		i.&a.	iron and aluminum	resub.	resublimed
b.r.	boiling range			ret.	returnable
bxs.	boxes	i.b.p.	initial boiling point	SD	specially denatured
C	centigrade	imp.	imported	s.d.	single distilled
cbys.	carboys	incl.	included	S.E.	southeast
CD	completely denatured	indust.	industrial	sec.	secondary
		kgs.	kegs	secs	seconds
c.i.f.	cost, insurance, freight	l-	laevo	s.g.	specific gravity
		lacq.	lacquer	shipt.	shipment
cks.	casks	lb	pound	soln.	solution
c.l.	carlots	l.c.l.	less carlots	s.u.	standard unit
cns.	cans	l.t.l.	less truckload	syn.	synthetic
coml.	commercial	liq.	liquid	tanks.	railroad tankcars
conc.	concentrated	mfrs.	manufacturers	tech.	technical
CP	chemically pure	m-	meta	tert-	tertiary
cps.	centipoises	m.a.p.	mixed aniline point	t.l.	truckloads
cryst.	crystalline			t.w.	tankwagons
cs	cases	min.	minimum	USP	U S Pharmacopoeia
ctns.	cartons	m.p.	melting point		
cyls.	cylinders	N-	nitrogen	vis.	viscosity
d-	dextro	n-	normal	VM&P	varnish makers & painters
dbl.	double	nat	natural		
denat.	denatured	neut	neutral	W	west
dest-dist	destructively—distilled	NF	National Formulary	whse.	warehouse
		NNR	New and Nonofficial Remedies	w.w	water-white
dl-	dextro-laevo				
dist.	distilled				

A unit-ton is 2,000 pounds of 1 percent of the basic constituent or other standard of the material. The percentage figure of the basic constituent multiplied by the price figure shown gives the price of 2,000 pounds of the material.

Almond oil, artif., bitter (see Benzaldehyde)
Almond oil, nat., bitter, f.p.a., bots. lb. 3.75 3.45
NF, bots. ..... lb. 3.00 3.30
sweet, USP, cns., dms..... lb. .60 .70
Aloe, Cape, cs. ..... lb. .35 - .40
powd., cs. ..... lb .60 - .65
Curacao, kgs. ..... lb. .75 - —
powd., kgs. ..... lb. .85 - —
Aloin, USP, bbls., dms., kgs..... lb. 3.25 - 3.75
Alphanaphthol (see a-Naphthol).
Alphanaphthylamine (see a-Naphthylamine).
Alphanitronaphthalene (see a-Nitronaphthalene).
Alphapicoline (see a-Picoline).
Alphaterpinol (see a-Terpinol).
Alphatocopherol (see a-Tocopherol).
Alum ammonium, gran., bgs., c.l., works 100 lbs. 4.80 - —
Lump, dms., works ..... 100 lbs. 5.55 - —
Powd., dms., works ..... 100 lbs. 5.70 - —
Alum potassium, gran., bgs., c.l., works 100 lbs. 5.05 - —
Lump, dms., works ..... 100 lbs. 5.80 - —
Powd., dms., works ..... 100 lbs. 5.95 - —
Alum, potash-chrome, dms lb. .17 - —
Alumina, calcined, bgs., c.l., works. lb. .0530- —
bgs., l.c.l., works ..... lb. .0655- .0830
Aluminum acetate, basic, fib. dms., l.c.l., works lb. .54 - —
Aluminum chloride coml. anhyd., dms., c.l., works, frt. equald lb. .16 - —
dms., l.c.l. works lb. .16½- —
cryst., dms., c.l. works 100 lbs.21.00 - —
dms., l.c.l. works 100 lbs.21.50 - —
Soln., 32° cbys., c.l., works lb. .0495- —
cbys., l.c.l., works lb. .0570- .1098
tanks, works 100 lbs. 3.95 - —
NF, gran. dms. works lb. .31 .33
Aluminum fluoride tech., anhyd., bgs., c.l. works lb. .16¼ —
bgs., l.c.l. works lb. .17¼ .19¼
bulk, c.l. basis 80% lb. .14½ —
Aluminum fluoride in fib. dms. 0.35c per lb higher
Aluminum formate, basis soln., containers extra, c.l., works. 100 lbs.11.00 - —
containers extra l.c.l. works 100 lbs.11.50 - —
Aluminum hydrate heavy, bgs., c.l., frt. equald lb. .0370- —
bgs., 20,000-40,000 lb. lots, same basis lb .0395- —
bgs., 2,000-20,000 lb lots, same basis lb. .0495- —
bulk c.l. same basis lb. .0330- —
Light, bgs., c.l., t.l., works ..... lb. .08 — —
bgs., t.l., to c.l., works ..... lb. .09 — —
bgs., l.t.l., works ..... lb. .10 — —
Aluminum hydroxide, dried, USP XV fib dms. works lb. 82½ —
fib dms. contract works lb. 79½ — —
gel, pharmaceutical, 14-15% Al_2O_3, fib dms., works lb. .22 - —
9-9½% Al_2O_3, fib dms. works. lb .19 - —
fib dms. contract works lb. .18 - —
Aluminum hydroxide tech powd., (see Aluminum hydrate)
Aluminum metal, 99½% + 30-lb ingots, 10,000-lb lots, frt. alld. lb. .2610- —
50-lb pigs 10,000-lb lots frt alld. lb. .24 - —
Aluminum oxide, amorphous (see Alumina calcined)
Aluminum paste lining extra-fine, 200-lb. dm. dlvd lb. .70 - —
Standard lining, dms lb. .47½- —
Aluminum powder lining, extra-fine, 250-lb. drm. dlvd lb. 1.12 - —
Standard lining, dlvd lb. .82 - —
Aluminum resinate, precip. 2.1% Al, dms lb. 45 — —
Aluminum stearate, dibasic, ctns. c.l lb. .39 — —
ctns., l.c.l. ..... lb 40 44
Monobasic, ctns., c.l. ..... lb .39 — —
ctns., l.c.l. ..... lb .40 .44
Tribasic ctns. c.l. ..... lb. .39 — —
ctns., l.c.l ..... lb .40 .44
Aluminum sulfate, coml., grd., bgs c.l., works, frt. equald ton 41.00 — —
bulk c.l., same basis ton 40.00 - —
lump, bgs. c.l., same basis ton 44.00 - —
iron-free, bgs. c.l., works, frt equald 100 lbs 3.80 — —
bgs. l.c.l., works, frt equald 100 lbs 4.30 8.30
USP gran., 400-lb dm. works. lb. .30 — —
USP, powd., dms. works lb .27 — —
Aluminum sulfate prices $1 per ton higher in the South
Aluminum trihydrate, heavy (see Aluminum hydrate, heavy).
Ambergris, gray, bots oz. 6.50 -10.00
p-Aminoacetanilide, tech., paste, dms., frt. alld lb 1.57 — —
Aminoacetic acid, NF, bbls, frt adjusted lb 1.35 1.60
Aminoazotoluene base, bbl. 90% basis lb. 1.15 1.18
p-Aminobenzoic acid, tech, dry, dms., works lb 1.72 — —
2-Amino-4-chlorophenol, tech, solid, dms., frt. alld lb 3.15 3.85
p-Aminodiphenylamine, tech, solid, dms. frt alld lb 3.00 — —
Aminoethyl ethanolamine, dms., c.l., dlvd lb. .475 — —
dms., l.c.l., dlvd lb. .49 — —
tanks, dlvd. lb. .45 — —
2-Amino-2-methyl-1-propanol, dms., c.l., frt alld lb. .44 - —
dms., l.c.l., frt. alld. lb. .45 - —
tanks, frt. alld. lb. .42 - —
m-Aminophenol, dist., dms., ton lots. lb 2.05 - —
dms smaller lots. lbs. 2.50 - —
p-Aminophenol, dms., frt. alld. lb. 1.25 - —
Aminophylline, USP, 100-lb. dm., frt alld lb 3.25 - —
p-Aminosalicylic acid, dms., 100 lbs. or more, frt. adjusted lb. 3.40 - —
Ammonia, anhyd., fertilizer tanks, works, frt. equald. E. of Rockies ton.92.00 - —
refrigeration tanks, works, frt equald. E. of Rockies ton.94.50 - —
Aqueous, 29.4%, tanks, works, anhyd. basis, E. of Rockies ton.95.00 - —
Ammoniacal liquor (see Ammonia, aqueous).
Ammoniac, sal., gray, bgs., c.l. works, frt. equald 100 lbs 8.25 — —
bgs. l.c.l., same basis 100 lbs 8.65 -12.65
Ammoniac, sal., white (see Ammonium chloride, tech.)
Ammonium acetate, purif., dms lb. .43 - —
Ammonium benzoate, USP, 100-lb. dms., 1,000-lb lots, works lb 1.90 - —
Ammonium biborate, gran., dms., c.l., works ton 325 - —
dms., ton lots, ex whse 100 lbs.22.86 - —
dms., smaller lots, ex whse 100 lbs.24.11 - —
Ammonium bicarbonate, dom., dms., c.l., works 100 lbs. 7.50 - —
dms., l.c.l., works 100 lbs 9.50 - —
Ammonium bichromate dms. works lb 42 43
Ammonium bifluoride dms dlvd lb 2145 2245
Ammonium bromide, NF gran., dms., c.l. t.l. frt equald lb 44 — —
dms. l.c.l., same basis lb. .46 — —

Ammonium carbonate, USP lump, dms c.l. lb. 15½- —
Ammonium chloride white tech., fine gran. bgs. c.l. works 100 lbs 6.00 —
bgs. l.c.l., works 100 lbs 8.00 8.45
USP, gran., 250-lb. dm lb .20 —
Ammonium citrate dibasic 250-lb dm. f.o.b., works lb. .76 - —
Ammonium dichromate (see Ammonium bichromate)
Ammonium fluoride (see Ammonium bifluoride)
Ammonium gluconate tech. 200-lb. dm., f.o.b works E lb .45 - —
Ammonium hydroxide (see Ammonia aqeous)
Ammonium iodide NF, 25-lb. jar, f.o.b works lb 4.51 - —
Ammonium lauryl sulfate, dms., c.l., frt alld lb. 20½- —
dms, l.c.l. frt. alld lb .21½- —
tanks frt alld lb 19½- —
Ammonium lignin sulfonate, bgs., bgs, l.c.l., works 100 lbs. 3.75 4.25
bgs c.c.l works 100 lbs 3.40 3.65
Ammonium molybdate, CP cryst., 400 lb dms. 15,000-lbs works. lb. 1.35 - —
400-lb dms. 2,000-lb contracts, work lb. 1.36 - —
400-lb dms. works lb. 1.37 - —
Ammonium nitrate, dom., fertilizer grade 33.5% N. bgs., f.o.b. works ton.67.00 - —
Ammonium nitrate, dom., with dolomite, 20.5% N, bgs.., c.l., Hopewell, Va ton.44.00 - —
imp., Canadian, 33.5% N. eastern, bgs. c.l., ship't point frt. equald to $3 ton base price ton.67.00 - —
Ammonium oxalate, tech., fine gran. 250-lb dm. f.o.b works E lb. .28½- —
Tech. powd. 200-lb. dm., same basis lb. .28½- —
Ammonium pentaborate, gran. bgs., c.l. works ton.193.00 - —
bgs., ton lots, ex whse 100 lbs.15.27 - —
bgs. smaller lots, ex whse 100 lbs.16.52 -18.52
Ammonium pentaborate powder $10 per ton higher in bags.
Ammonium persulfate, tech., dms., 10-ton lots or more, works lb. .18 - —
dms., smaller lots, works lb. .20 - .23
Ammonium phosphate, comi., bgs., c.l., works, frt. equald lb. .09¼- —
bgs., l.c.l., same basis lb. .10 - —
Ammonium phosphate, dibasic, NF., V., bbls., dms lb. .46 - —
Dibasic, tech. bgs., c.l., works, frt. alld lb. .09¼- —
Ammonium silicofluoride, dms., works lb. .12¼- .13¾
Ammonium sulfamate, bgs. c.l., t.l., works lb. .19 —
bgs., l.c.l., works lb. .20½- .27
Ammonium sulfate standard granular, bulk f.o.b works, base price ton.32.00 - —
Ammonium sulfate, purif., c.l., 100-lb. bgs., f.o.b. works lb. .08½- —
Ammonium sulfate, large granular, bulk, c.l., works ton.35.00 - —
bgs., c.l., works ton 40.00 - —
Tech., bulk, c.l., t.l., works ton.52.00 - —
bgs., c.l., t.l., works ton.56.00 - —
bgs., l.c.l., t.l., works 100 lbs 3.20 - 5.20
Ammonium sulfide, liq., 40-44%, tanks, frt equald., 100% basis, ton.160.00 - —
Ammonium sulfocyanide, tech. (see Ammonium thiocyanate)
Ammonium thiocyanate, tech., cryst. dms. c.l., works lb. .20 - —
dms. l.c.l., works lb. .22 .26
Tech, soln., 50%, tanks, frt. equald., basis ammonium thiocyanate content lb. .17¼- —
Ammonium thioglycolate, comi., 55-gal. dms., ton lots, 100% basis, tanks, same basis lb 1.15 - —
d-Amphetamine hydrochloride, monobasic dms lb.17.50 -23.50
dl-Amphetamine hydrochloride, dibasic dms lb 4.50 - 6.00
d-Amphetamine phosphate, 6lb dms., 100-lb lots lb.15.00 - —
dl-Amphetamine phosphate, dms.lb 4.20 - 5.60
d-Amphetamine sulfate, 6lb. dms. lb.15.00 -17.00
dl-Amphetamine sulfate, 6lb. dms., lb. 4.20 5.60
Amyl acetate, ex fusel oil, tech., dist from 125° to 150°C., dms. c.l., frt alld E of Rockies lb. .18½- .19
dms., l.c.l., same basis lb. .20 - .20½
tanks, same basis lb. .16 - .16½
Amyl acetate, ex pentane, reg., dms., c.l., dlvd lb. .19 - —
dms., l.c.l., dlvd. lb. .21½- —
tanks, dlvd. lb. .16½- —
Amyl acetate, tech., dms., c.l., dlvd. lb. .17 - —
dms., l.c.l., dlvd. lb. .18½- —
tanks, dlvd. lb. .14½- —
Syn., oxo process, dms., c.l., dlvd. lb. .19 - —
dms., c.l. dlvd. lb. .20½- —
tanks, dlvd lb. .16½- —
Amyl alcohol, ex fusel oil (see Fusel oil refd).
Amyl alcohol, ferment, refd., 128°-132°C., dms., l.c.l., dlvd lb. .43½- —
refd., ACS grade, dms., l.c.l., dlvd lb. .45½- —
ex pentane, mixed amyls, dms., c.l., frt. alld lb. .19 - —
dms., l.c.l., frt. alld lb. .20½- —
tanks, frt. alld. lb. .16½- —
Primary, dms., c.l., frt. alld lb. .20¼- —
dms., l.c.l. frt. alld lb. .21¾- —
tanks, frt. alld lb. .17¾- —
Sec-synthetic, dms., c.l., works, frt. alld lb. .19 - —
dms., l.c.l., same basis lb. .20½- —
tanks, same basis lb. .17 - —
Tert-synthetic, dms., c.l., frt. alld. E lb. .22 - —
dms., l.c.l., frt. alld. E lb. .23½- —
tanks, frt. alld. E lb. .19½- —
1-pentanol (syn. normal), dms., c.l., works lb. .41½- —
dms., l.c.l., works lb. .43 - —
tanks, works lb. .39½- —
2-pentanol, dms., c.l., works lb. .65 - —
dms., l.c.l., works lb. .70 - —
tanks, works lb. .60 - —
Amyl n-butyrate, dms. lb. 1.00 - 1.25
Amyl cinnamic aldehyde, dms lb. 1.70 - 2.20
p-tert Amyl phenol, dms., c.l., works. lb. .28 - —
dms., l.c.l., works lb. .29 - —
Amyl salicylate, cns., dms. lb. .71 - —
Amyris oil, dms. lb. 1.40 - 1.50
Anethol tech., dms. lb. .80 - .92
USP cns., dms. lb. 1.05 - —
Angelica root, bls lb .50 - 1.00
Angelica root oil, bots lb.120.00 -140.00
Angelica seed oil, bots lb.120.00 -130.00
Aniline, dms., c.l., frt, alld lb. .17 - —
dms., l.c.l., same basis lb. .18 - —
tanks, same basis lb. .15 - —
Aniline oil (see Aniline).
Aniline salt, dms., c.l. t.l., 20,000 lbs. min., frt. alld lb. .33 - —
dms., l.c.l., same basis lb. .35 - —
Anise oil, USP, dms lb. 1.90 - 3.00
Anise seed, Turkish, bgs. lb. .30 - —
Spanish, bgs. lb. .40 - —
Anisic aldehyde, dms lb. 1.50 - 2.20
o-Anisidine, dms., c.l., frt. alld lb. .80 - —
dms., l.c.l., same basis lb. .82 - —
tanks, same basis lb. .78 - —
p-Anisidine, dms., works lb. .97 - —
Anthracene, 90-95%, dms., c.l., t.l. f.o.b., works lb. .42½- —
dms, l.c.l., minimum shipment 1,000 lbs., same basis lb. .45 - —
Anthranilic acid, 99%, 150-lb. dms., dlvd lb. 1.15 - —
Anthraquinone, 99.5% bgs., c.l., frt. alld lb. .70 - —
bbls., l.c.l., same basis lb. .73 - —
Electrical grade, bgs. l.c.l., same basis lb 1.10 —
Antimony butter (see Antimony trichloride).
Antimony metal, bulk, c.l., mines. lb. .32½- —
es., c.l., mines lb. .33 - —
Antimony oxide, bgs., c.l., frt. alld. lb. .30 - —
bgs., l.c.l., frt. alld lb .31½- —
Prices of antimony oxide are 2c. higher west of the Rockies.
Antimony sulfide, approx. 65%, bgs., 10,000-lb. lots, dlvd lb. .23 - —
bgs., smaller lots, dlvd lb. .24 - .26
Antimony trichloride, anhyd., solid, pails, c.l., works lb. .44½- —
pails, l.c.l., works lb. .46½- —
Antimony-potassium tartrate, tech., powd., 250-lb., dm., f.o.b. works, E lb. .69½- —
USP, powd., 250-lb dm., same basis lb. 74½- —
Apomorphine hydrochloride, USP, bots., 25-oz. lots oz.35.60 - —
Apricot kernel oil, USP, dms lb. .55 - .70
Arabic gum, amber sorts, 10 bgs. lb. .21 - .23
USP, powd., bbls lb. .27 - .30
Areca nuts, powd., bbls lb. .18 - .20
Arecoline hydrobromide, NF, bots., tins, 100 oz. or more oz. 4.00 - —
l-Arginine free base, dms., 10-kilo 5-kilo lots or more kilo.60.00 - —
l-Arginine glutamate, dms., 10-kilo lots or more kilo.64.80 - —
l-Arginine monohydrochloride, dms., 5-kilo lots or more kilo.60.00 - —
Arnica flowers (true Montana), bls. lb .75 - —
Aromatic petroleum solvents (see Solvent Naphtha, petroleum, aromatic).
Arsenic, crude (95%), bulk, c.l., works lb. .016 - —
bbls., c.l., works lb. .031 - —
Arsenic, white, powd., bbls., c.l., works lb. .04½- —
bbls., l.c.l., works lb. .06½- .07¼
Arsenic trioxide, NF, powd., dms., 300-lbs., f.o.b. works lb 48 - —
Arsenous acid, tech. (see Arsenic, white).
Arsenous acid, USP (see Arsenic trioxide).
Arylid maroons, deep shades, bbls. lb .3.70 - —
Light shades, bbls. lb. 2.85 - —
Asafetida gum, cns lb. .36 - .40
Powd., bbls., dms lb .75 - .80
Asbestine (see Talc, fibrous, New York).
Asbestos, Canadian crude
6D, c.l. (30 tons), mines ton.86.00 - —
7D, c.l. (30 tons), mines ton.75.00 - —
7F, c.l. (30 tons), mines ton.71.00 - —
7H, c.l. (30 tons), mines ton.63.00 - —
7K, c.l. (30 tons), mines ton.50.00 - —
7M, c.l. (30 tons), mines ton.44.00 - —
7R, c.l. (30 tons), mines ton.43.00 - —
7RF c.l. (30 tons), mines ton.44.00 - —
7T, c.l. (30 tons), mines ton.41.00 - —
7TF c.l. (30 tons), mines ton.44.00 - —
Asbestos prices are in Canadian funds; l.c.l. lots $4 per ton higher
Ascorbic acid, USP, dms, 100-kilos kilo. 5.60 - —
dms., less than 100-kilos kilo. 5.85 - —
Ash black (see Barium sulfide).
Asphalt, gilsonite, black jet, bgs., c.l., mines ton.47.00 - —
ex-whse, 5 tons or more, N. Y., N. J. ton.93.50 - —
select, brilliant black, 340°-360°F fusing pt., bgs., c.l., mines ton.50.00 - —
270°-295°F. fusing pt., bgs., c.l., mines ton.47.00 - —
Petroleum, cut-back, tanks, tankwagon, refy. gal. .09½- —
emulsion, tanks, tankwagon refy. gal. 09½- —
steam-refd., 50-80 penetration, tanks, tankwagon, refy. ton.21.00 - —
85-300 penetration, tanks, tankwagon, refy ton.20.00 - —
Aspirin (see Acetylsalicylic Acid)
Atropine, NF, tins oz. Nom.
Atropine sulfate, USP, bots, 10 oz. lots oz. 5.25 - —
Azelaic acid, bgs., c.l., divd. lb. .36 - —
bgs., ton lots, same basis lb. .37 - —

uniform quality
steady supply
prompt delivery

It all adds up to...

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for...
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ETHYL ACETATE
BUTYL ALCOHOL
BUTYL CHLORIDE
BUTYL ACETATE
ACETONE

THERMICE brand of CO_2
(gas, liquid, solid)

for...
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ACETIC ACID
AMYL ACETATE
REFINED FUSEL OIL
ISOAMYL ALCOHOL
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• NEW ORLEANS—FILMORE 7-1486 • LOS ANGELES—HUBBARD 3-6430

B

Bacitracin, sterile, over 500,000,000 units	50,000 units.	.90	—
non-sterile, over 500,000,000 units.	50,000 units.	.65	—
Balm of Gilead buds, dried, bgs	lb.	1.25	1.35
Barberry root bark, bgs	lb.	1.00	1.10
Barbital, NF, 100-lb. dms., f.o.b. works	lb.	4.50	—
Barbital sodium, NF, 100-lb. dms.	lb.	4.75	—
Barium carbonate, precip., bgs., c.i., works	ton.	111.50	—
bgs., smaller lots, works	ton.	126.50	—
Barium chlorate, dms., works	lb.	.32	.41
Barium chloride anhyd., bgs., c.i., works	ton.	176.00	—
bgs., i.c.l., works	ton.	196.00	—
NF, cryst., dms., 400-lbs., works	lb.	.23	—
Tech., cryst., bgs., c.l., works. 100 lbs.		7.00	—
bgs., i.c.l., works 100 lbs.		8.00	—
Barium chromate, bgs., frt. equaid.	lb.	.38	—
Barium dioxide (see Barium peroxide).			
Barium hydrate, cryst., bgs., c.l., t.l., frt. equaid	ton.	208.00	—
bgs., i.c.l., t.l., frt equaid	ton.	218.00	—
Barium monohydrate, 99%, bgs., c.l., frt. equaid 100 lbs.		11.25	—
bgs., i.c.l., frt. equaid 100 lbs.		11.75	—
Barium monoxide (see Barium oxide).			
Barium nitrate bbls. c.l. t.l. dlvd	lb.	.16	—
bbls., i.c.l., t.t.l., dlvd.	lb.	.17	—
Barium oxide, grd., dms., c.l., t.l., frt equaid	ton.	275.00	—
dms. i.c.l., t.t.l. frt equaid	ton.	285.00	—
Barium peroxide, dms. frt. equaid.	lb	.20	—
Barium stearate, ctns. c.l. frt alid.	lb	.41	—
ctns., i.c.l. same basis	lb.	.42	.46
Barium sulfate, tech. (see Barytes and blanc fixe).			
Barium sulfate, X-ray, 100-lb. dm.	lb.	.19	—
Barium sulfide, dms., c.l., works.	ton.	100.00	—
dms., i.c.l., works	ton.	110.00	—
Barytes, southern off-color, bgs., mines	ton	30.00	—
95-75%, bgs., mines	ton.	30.00	—
white water-grd paper bgs., c.l. St. Louis	ton.	60.00	60.25
paper bgs., ex whse. New York	ton	84.85	—
Battery acid, cbys., c.l., works, E. 100 lbs.		2.35	—
cbys, i.c.l., works, E 100 lbs.		2.65	10.95
Bauxite, bulk, mines	ton	7.00	10.00
Bay oil NF Puerto Rican 50-55% cns	lb.	3.75	—
NF, Dominica, 50-55%, cns., dms	lb.	3.60	4.50
Bayberry wax, bgs	lb.	.65	.70
Beeswax, crude, African, bgs.	lb.	.53	.54
Brazilian, bgs.	lb.	.57	.58
Central American, bgs	lb.	.55	.56
Chilean, bgs.	lb.	.59	Nom.
Refd. USP bleached white, bricks 100-lb ctns	lb.	.67	.69
white, slabs, 100-lb ctns	lb.	.66	.68
yellow, bricks, 100-lb. ctns	lb.	.60	.62
yellow slabs, 100-lb. ctns	lb.	.59	.61
Belladonna leaf, bls	lb.	.25	.30
Belladonna root, bls	lb.	.35	.38
Bentonite dom 200 mesh, bgs., c.l., mines	ton.	14.00	—
Imp. Italian, white, high gel., bgs. 5-ton lots, ex whse	ton.	95.20	—
bgs., 1-ton lots, ex whse	ton.	99.00	—
Imp. Italian, white, low gel., bgs., 5-ton lots, ex whse	ton.	93.40	—
bgs. 1-ton lots ex whse	ton.	97.16	—
Benzal chloride cbys., works	lb.	.44	—
Benzaldehyde, NF, dms	lb.	.74	—
Tech., dms., c.l., t.l.	lb.	.42	—
dms., i.c.l	lb.	.44	—
Benzene, industrial or nitration, tanks, works:			
Baton Rouge, La.	gal.	.31	—
Bethlehem, Pa	gal.	.31	—
Birmingham district	gal.	.31	—
Chicago district	gal.	.31	—
Cleveland district	gal.	.31	—
Geneva, Utah	gal.	.31	—
Houston, Tex.	gal.	.31	—
Johnstown, Pa.	gal.	.31	—
Lackawanna, N. Y.	gal.	.31	—
Lone Star, Tex.	gal.	.31	—
Lorain, Ohio	gal.	.31	—
Mennequa, Colo.	gal.	.31	—
Middletown, Ohio	gal.	.31	—
Philadelphia district	gal.	.31	—
Pittsburgh district	gal.	.31	—
Port Arthur, Tex.	gal.	.31	—
St. Louis, Mo. District	gal.	.31	—
Sparrows Point, Md.	gal.	.31	—
Syracuse, N. Y.	gal.	.31	—
Terre Haute, Ind.	gal.	.31	—
Youngstown, Ohio	gal.	.31	—
Benzene hexachloride 25% and 99% gamma isomer (see Lindane).			
Benzene hexachloride, tech., high gamma, bgs., c.l., t.l., consignment, dlvd. gamma-unit,		.0075	—
bgs., c.l. t.l., direct sale, f.o.b. works gamma-unit.		.0065	—
Tech., low gamma, bgs., c.l., t.l., consignment, dlvd gamma-unit.		.0075	—
bgs., c.l., t.l., direct sale, f.o.b. works gamma-unit.		.0056	—
Benzidine hydrochloride, bbls., c.l., frt. alld., 100% basis	lb.	1.19	—
bbls., i.c.l., same basis	lb.	1.21	—
Benzidine sulfate, tech., bbls., frt. alld., 100% basis	lb.	1.21	—
Benzidine yellow, AAA, bbls., dlvd.	lb.	2.20	—
AAOT, bbls., dlvd.	lb.	2.55	—
Lightfast, bbls., dlvd.	lb	3.40	—
Benzocaine, dms., 100-lbs., frt. alld.	lb.	3.25	—
Benzoic acid, tech., dms., c.l., t.l., frt. alld.	lb.	.20	—
dms., i.c.l., t.t.l., same basis	lb.	.24	—
USP, bbls., dms., ton lots	lb.	.48	—
bbls., dms., 1,000-lb lots	lb.	.50	—
Benzoic acid in bags, ½c. lower.			

BENZOL
Benzol quotations, both coaltar and petroleum, may be found under Benzene.

Benzoin gum, Sumatra, cs.	lb.	.32	—
Benzophenone, dms	lb.	1.35	1.40
Benzotriazole, tech. dms., 1,000-lb lots, works	lb.	1.93	—
Benzotrichloride, cbys., 1,000-lb lots or more, frt. equaid	lb.	.21	—
cbys., smaller lots, frt. equaid	lb.	.23	—
Benzoyl chloride, cbys. dms., c.l., works, frt. equaid	lb.	.22	—
cbys., i.c.l., same basis	lb.	.23	—
tanktrucks, dlvd Metropolitan area	lb.	.21	—
Benzoyl peroxide, purit. fib. dms., 50 to 1,000-lb lots works	lb.	.98	1.08
Benzyl acetate t.t.c. cns. dms	lb.	.54	—
Benzyl alcohol NF, dms	lb.	.54	—
Tech. dms. dlvd	lb.	.47½	.65
Benzyl benzoate, USP, 40-lb. dms.	lb.	.62	—
Benzyl chloride, tech., dms., c.l. f.o.b. frt. equaid	lb.	.23	—
dms., i.c.l., same basis	lb.	.24	—
tanktrucks, dlvd., Metropolitan area	lb.	.21	—
Benzyl cinnamate, cns.	lb.	3.80	4.00
N-Benzyl-N,N-dimethylamine, 50 dms., frt. alld	lb.	1.25	—
12-49 dms. same basis	lb.	1.35	—
1-11 dms., same basis	lb.	1.90	—
Benzyl formate, cns.	lb.	1.70	1.85
Benzyl isoeugenol, cns.	lb.	8.20	8.30
Benzyl propionate, bots	lb.	1.30	1.35
Benzyl salicylate bots	lb.	1.50	1.85
Benzylidine acetone, bots	lb.	1.65	1.75
Benzylidine chloride (see Benzal chloride).			
Berberine bisulfate cns	lb	56.50	—
Berberine hydrochloride, bots	lb.	56.50	—
Bergamot oil nat. NF Italian, cns.	lb.	11.00	12.00
Betagammapicoline (see b,g-Picoline).			
Betahydroxynaphthoic acid (see b-Oxynaphthoic acid).			
Betamethylnaphthalene (see Methylnaphthalene).			
Betanaphthol (see b-Naphtol).			
Betanaphthylamine (see b-Naphtholamine).			
Betaoxynaphthoic acid (see b-Oxynaphthoic acid).			
Betaphenylethylamine (see b-Phenylethylamine).			
BHC (see Benzene hexachloride, tech.).			
Biotin cryst., bots	gram.	10.00	—
Biphenyl (see Diphenyl).			
Birchtar oil, crude, cns.	lb.	1.50	1.90
Rectified, cns.	lb.	1.75	2.00
Bismuth chloride jars	lb	5.11	—
Bismuth hydroxide dms	lb	4.60	4.65
Bismuth metal bxs ton lots	lb	2.25	—
Bismuth nitrate cryst., 200-lb. dm.	lb.	2.23	—
Bismuth oxychloride, 25-lb. dm., f.o.b. works	lb.	4.92	—
Bismuth subcarbonate, USP, 25-lb. dm., f.o.b., works	lb.	3.70	—
Bismuth subgallate NF 200-lb. dm. f.o.b works	lb.	3.93	—
Bismuth subiodide fib dms	lb.	5.37	—
Bismuth subnitrate NF, 200-lb. dm., f.o.b., works	lb.	3.10	—
Bismuth subsalicylate USP. 100-lb. dm., f.o.b works	lb.	4.13	—
Bismuth trioxide 100-lb. dms., f.o.b works	lb.	4.40	—
Bismuth-ammonium citrate, USP, powd., jars	lb.	4.22	—
Bisphenol-A bgs., c.l. t.l., single shipt. 70,000-lbs or more, frt. alld	lb.	.30½	—
bgs., c.l., t.l., less than 70,000-lbs., same basis	lb.	.31	—
bgs., i.c.l., same basis	lb.	.32½	—
Blackberry root bark bls	lb.	.50	.55

BLACK PIGMENTS
Black pigment quotations are listed individually. For example, prices on Black, acetylene, may be found in the A's under Acetylene black.

Blanc fixe direct process, bgs., c.l., works	ton.	160.00	—
bgs., i.c.l., works	ton.	170.00	—
bgs., i.c.l., New York whse	ton.	215.00	—
Blood, dried 16-16½% ammonia bgs., New York unit	ton	5.50	—
Bloodroot, bls	lb	.80	.85

BLUE PIGMENTS
Blue pigment quotations are listed individually. For example, prices on Blue, ultra marine, may be found in the U's under Ultramarine blue.

Blue dyes (see Dyes)			
Blue vitriol (see Copper sulfate)			
Bois de rose oil, Brazilian, dms	lb.	1.90	—
Peruvian dms.	lb	1.65	—
BON acid maroons pure, bbls	lb	1.75	—
Resinated bbls	lb	1.50	—
Bonemeal, steamed, works, E	ton	100.00	—
Bone black, dms. c.l. frt alld	lb	1750	2225
i.c.l., works	lb	1950	2425
Pacific coast bone black prices 3¼c. per lb higher.			
Bone phosphate defluorinated of lime (see Defluorinated phosphate).			
Bone phosphate, precip (see Calcium phosphate tribasic)			
Borax, tech. anhyd., 99½%, bgs., c.l. works	ton	92.00	—
bgs. ton lots, ex whse New York or Chicago 100 lbs.		7.67	—
bgs., smaller lots, same basis 100 lbs.		8.91	10.91
bulk, c.l., works	ton	83.00	—

Seems like every time we introduce our family of aralkyl (benzyl) amines, we have to add on another name or two. Biggest reason for this is that we often create new amines where existing ones cannot solve the problem. Never can tell... maybe one of them (listed below) can solve a sticky problem for you. We'd like to try. Write to us and describe the job that needs doing.

N-Benzyl-N-Methylamine
N, N-Dibenzyl-N-Methylamine
N-Benzylamine
N, N-Dibenzylamine
N-Benzyl-N, N-Dimethylamine
N-Benzyl-N, N, N-Trimethyl Ammonium Methoxide (40% in Methanol)
N, N-Dibenzyl-N, N-Dimethyl Ammonium Chloride
N-Benzyl-N-Methyl Ethanolamine
N-Benzyl Ethanolamine
N-Benzyl Diethanolamine
N, N-Dibenzyl Ethanolamine
N-Benzyl Isopropylamine
N-Methyl Formanilide
N-Benzyl Aniline
β-Phenylethylamine
N-Benzyl-N, N, N-Trimethyl Ammonium Hydroxide (40% in Methanol)

Miles Chemical Company
DIVISION OF MILES LABORATORIES, INC.
ELKHART, INDIANA COngress 4-3111

Borax, tech., gran., decanydrate, 99½%, bgs., c.l., works ton 50.00 - —
bgs., ton lots, ex whse. New York or Chicago 100 lbs. 5.31 - —
bgs., smaller lots same basis 100 lbs. 6.56 8.56
bulk, c.l., works ton 43 50 —
Tech., pentahydrate, 99½%, bgs., c.l., works ton 64.50 - —
bgs., ton lots, ex whse. New York or Chicago 100 lbs. 6.12 - —
bgs., smaller lots, same basis 100 lbs. 7.37 - 9.37
bulk, c.l., works ton 58 00 —
USP powd., bgs., c.l., works ton 54.00 - —
bgs., ton lots, ex whse. New York or Chicago 100 lbs. 6.57 - —
bgs., smaller lots, same basis 100 lbs. 7.82 - 9.82
Bordeaux powder tribasic bgs., c.l., dlvd lb. .24 - —
bgs., l.c.l., same basis lb. .26 - —
Boric acid, tech. anhyd., 99.9% bgs., c.l., works ton 335.00 - —
bgs., ton lots, ex whse. New York or Chicago 100 lbs. 21.27 - —
Tech. anhyd., 99%, bgs., smaller lots, same basis 100 lbs. 22.52 -24.52
cryst., 99.9% bgs., c.l., works ton 163.50 - —
Tech., cryst., 99.9%, bgs., ton lots, ex whse., New York or Chicago 100 lbs. 11.67 - —
bgs., smaller lots, same basis, 100 lbs. 12.92 -14.92

Boric acid, tech., cryst., 99.9%, dms., c.l., works ton. 188.50 - —
dms., ton lots, ex whse., New York or Chicago 100 lbs. 13.17 - —
dms., smaller lots, same basis 100 lbs. 14.42 - —
gran., 99.9%, bgs., c.l., works. ton. 112.00 - —
bgs., ton lots, ex whse. New York or Chicago 100 lbs. 8.78 - —
bgs., smaller lots, same basis 100 lbs. 10.03 -12.03
dms., c.l., works ton 137 00 —
dms., ton lots, ex whse. New York or Chicago 100 lbs. 10.29 - —
dms., smaller lots same basis 100 lbs. 11.54 - —
bulk, c.l., works ton. 106.00 - —
powd., bgs., ton lots, ex whse, New York or Chicago 100 lbs. 9.20 - —
bgs., smaller lots same basis 100 lbs. 10.45 -12.45
dms., ton lots, ex whse., New York or Chicago 100 lbs. 10.71 - —
dms., smaller lots, same basis 100 lbs. 11.96 - —
USP boric acid $25 per ton higher in bags.
Borneol, cns. lb. 2.75 - —
Boron trichloride, CP, 1,800-lb. cyls., works lb. 1.25 - —
100-lb. cyls., works lb. 1.70 - —

Boron trifluoride, gas, cyls., t.l., works lb. .70 - —
cyls., l.t.l., works lb. .70 - —
Brimstone (see Sulfur).
Broenner's acid, bbls. lb. 1.53 - —
Bromine, purif., cs., c.l., t.l., dlvd. E. of Rockies lb. .32 - —
cs., l.c.l., same basis lb. .34 - .39
ret. dms., c.l., t.l., dlvd. E. of Rockies lb. .31 - —
ret. dms., l.c.l., same basis lb. .31 - .34
tanks, same basis lb. .21½ - —
Bromochloromethane, dms., c.l., frt. equald lb. .48 - —
dms., l.c.l., same basis lb. .50 - —
tanks, same basis lb. .47 - —
Bromoform, pharmaceutical grade, 5-gal. cby., frt. equald lb. 1.95 - —
Bromstyrol, bots lb 5.25 5.35
Brucine, cns. oz. .75 - 1.10
Brucine sulfate, NF, cns. oz. .65 - .85
Buchu leaves, bbls. lb. .60 - .65

BROWN PIGMENTS

Brown pigment quotations are listed individually. For example, prices on Brown, Iron oxide, may be found in the l's under Iron oxide, brown.

Butadiene, retd cyls., c.l., refy lb. .21 - —
cyls., l.c.l., refy lb. .22 - —
tanks, dlvd lb. .12¾ - —
Butene-1, tanks, works lb. .0625- —
Butene-2, tanks, works lb. .0570- —
n-Butyl acetate, ferment, dms., c.l., frt. alld lb. .17 - —
dms., l.c.l., same basis lb. .18½ - —
tanks, same basis lb. .14½ - —
Syn., dms., c.l., dvld. E lb. .17 - —
dms., l.c.l., same basis lb. .18½ - —
tanks, same basis lb. .14½ - —

sec-Butyl acetate, syn., dms., c.l., dlvd. E. lb. .14¾ - —
dms., l.c.l., same basis lb. .16¼ - —
tanks, same basis lb. .12¼ - —
n-Butyl acrylate, dms., c.l. or t.l., straight or mixed frt. alld. E. lb. .37½ - —
dms., l.t.l., same basis lb. .38½ - —
tanks, same basis lb. .35 - —
n-Butyl alcohol, ferment, dms., c.l., frt. alld. lb. .18 - —
dms., l.c.l., frt. alld. lb. .19½ - —
tanks, frt. alld. lb. .15½ - —
Syn., dms., c.l., dlvd. E lb. .17 - —
dms., l.c.l., frt. alld. lb. .19½ - —
tanks, frt. alld. lb. .15½ - —
Sec-synthetic, dms., c.l., dlvd lb. .15 - —
dms., l.c.l., dlvd. lb. .16½ - —
tanks, dlvd. lb. .12½ - —
Tert-synthetic, dms., c.l., frt. alld., dlvd. E lb. .16 - —
dms., l.c.l., same basis lb. .17½ - —
tanks, same basis lb. .13½ - —
Butyl aldehyde (see Butyraldehyde).
Butyl chloride, dms., c.l., works lb. .37½ - —
dms., l.c.l., works lb. .38¼ - —
n-Butyl ether, dms., c.l., works lb. .35¼ - —
dms., l.c.l., works lb. .36 - —
tanks, works lb. .33¼ - —
Butyl cyclohexyl phthalate, dms., c.l., frt. alld. E lb. .25 - —
dms., l.c.l., frt. ald. E lb. .26½ - —
tanktrucks, 1,000 - 1,999 gals., same basis lb. .23 - —
tanktrucks, 2,000 gals., same basis lb. .22½ - —
Butyl isodecyl phthalate, dms., c.l., frt. alld. E lb. .24½ - —
dms., l.c.l., frt. alld. E lb. .26 - —
tanktrucks, 1,000 - 1,999 gals., same basis lb. .22½ - —
tanktrucks, 2,000 gals., same basis lb. .22 - —
Butyl lactate, dms. c.l. frt. alld. E. Rockies lb. .42½ - —
dms., l.c.l., same basis lb. .43½ - —
tanks, same basis lb. .40 - —
Butyl laurate, dms., works lb. .37½ - —
Butyl methacrylate, dms., c.l., t.l., works lb. .55 - —
dms., l.c.l., works lb. .55½ - —
Butyl octyl phthalate, dms., c.l., frt. alld. E lb. .24½ - —
dms., l.c.l., frt. alld. E lb. .26 - —
tanktrucks, 1,000 - 1,999 gals., same basis lb. .22½ - —
tanktrucks, 2,000 gals., same basis lb. .22 - —
Butyl oleate, dms., c.l., frt. alld. E. of Rockies lb. .26 - —
dms., l.c.l., same basis lb. .26½ - .27
tanks, same basis lb. .24 - —
Butyl phenylacetate, dms. lb. 4.50 - 4.60
Butyl phthalate (see Dibutyl phthalate).
Butyl stearate, CP, dms., c.l., frt. alld. E. of Rockies lb. .28½ - —
dms., l.c.l., same basis lb. .29 - .29½
tanks, same basis lb. .26½ - —
tech., dms., c.l., same basis lb. .25¾ - —
dms., l.c.l., same basis lb. .26¼ - .26¾
tanks, same basis lb. .23¾ - —
Butylamine (see Mono-, Di- and Tributylamine).
tert-Butylamine, dms., c.l., t.l., f.o.b. works lb. .47 - —
dms., l.c.l., same basis lb. .47½ - —
tc., t.t., same basis lb. .45 - —
Butylated hydroxyanisole, food grade, dms., dlvd. lb. 4.75 - —
6-tert-Butyl-m-cresol (see Mono-tert-butyl-m-cresol).
Butylated hydroxytoluene (see 2,6-Di-tert-butyl-p-cresol).
1,3-Butylene glycol, dms., c.l., t.l., dlvd lb. .20½ - —
dms., l.c.l., l.t.l., f.o.b. works lb. .22 - —
tanks, dlvd lb. .18 - —
p-tert-Butylphenol, bgs., c.l., frt. alld lb. .25½ - —
bgs., l.c.l., same basis lb. .26½ - —
tanks, same basis lb. .23½ - —
Butyraldehyde, dms., c.l., dlvd lb. .22 - —
dms., l.c.l., dlvd. lb. .23½ - —
tanks, dlvd. lb. .19½ - —
Butyric acid, 99%, dms., c.l., frt. equald lb. .34 - —
dms., l.c.l., same basis lb. .34½ - —
tanks, same basis lb. .32½ - —
Butyric ether (see Ethyl butyrate).
Butyrolactone, dms., c.l., t.l., works. lb. .40 - —
dms., l.c.l., same basis lb. .43 - —
n-Butyronitrile, dms., c.l., dlvd lb. .56½ - —
dms., l.c.l., dlvd. lb. .57½ - —
tanks, dlvd. lb. .54 - —

C

Cacao butter (see Cocoa butter).
Cadmium CP red, dark shade, bbls., frt. alld. E. of Rockies lb. 5.55 - —
Light shade, bbls., same basis lb 4.65 - —
Medium shade, bbls., same basis. lb. 5.30 - —
Medium, light shade, bbls., same basis. lb. 4.90 - —
Orange-red shade, bbls., same basis lb. 4.30 - —
Cadmium CP yellow, all shades, bbls., frt. alld. E. of Rockies lb. 3.02 - —
Cadmium chloride, 400-lb. dms., f.o.b. shipping point lb. 1.56½ - —
Cadmium iodide, 25-lb tib dms lb 6.75 7.00
Cadmium metal, ingots or sticks, ton lots, cs., dlvd lb. 1.60 - —
Cadmium nitrate, purif. cryst., 400-lb. dms., less than 5,000 lbs., f.o.b. shipping point. lb. .94 - —
400-lb. dms., 5,000 lbs. or more, same basis lb. .90 - —
Cadmium-mercury lithopone orange, deep shade, bbls., frt. alld E. of Rockies lb. 1.73 - —
Cadmium-mercury lithopone red, dark shade, bbls., frt. alld. E. of Rockies lb. 2.03 - —
Light shade, bbls., same basis lb. 1.80 - —
Cadmium-mercury lithopone red, medium shade, bbls., same basis lb. 1.95 - —
Medium light shade, bbls., same basis lb. 1.88 - —
Maroon shade, bbls., same basis. lb. 2.11 - —
Cadmium-selenide lithopone maroon, bbls., frt. alld E. of Rockies lb. 2.84 - —
Orange, bbls., same basis lb. 1.66 - —
Cadmium-selenide lithopone red, orange-red shade, bbls., same basis lb. 1.80 - —
Red, dark shade, bbls., same basis. Dark shade, bbls., same basis lb. 2.64 - —
Light shade, bbls., same basis lb. 1.96 - —
Medium shade, bbls., same basis. lb. 2.31 - —
Medium light shade, bbls., same basis lb. 2.08 - —
Cadmium-selenide lithopone yellow, all shades bbls., frt alld. E. of Rockies. lb. 1.27 - —

Tree coating by Cosden Paint Co., Beverly, N. J.

Aluminum trees are colorful with BUTON® Resins!

New BUTON resins from Enjay form the tough, durable coating that helps keep aluminum Christmas trees shining brightly. BUTON resins provide coatings with excellent adhesion to aluminum at low costs. Their ability to cure at high temperatures as well as with conventional baking permits high-speed production-line coating.

BUTON also adds extra sales appeal to many of the products that go underneath the Christmas tree. Users of appliance and automotive primers, container coatings, metal strip coatings, furniture lacquers and other surface coatings have much to gain from a closer acquaintance with BUTON resins. This versatile new resin series offers such important advantages as high gloss, rapid cure, chemical resistance and excellent adhesion, not only on aluminum, but also on an unusually wide variety of other substrates.

For application information, write to Enjay, 15 West 51st Street, New York 19, N. Y.

EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY
ENJAY CHEMICAL COMPANY
A DIVISION OF HUMBLE OIL & REFINING COMPANY

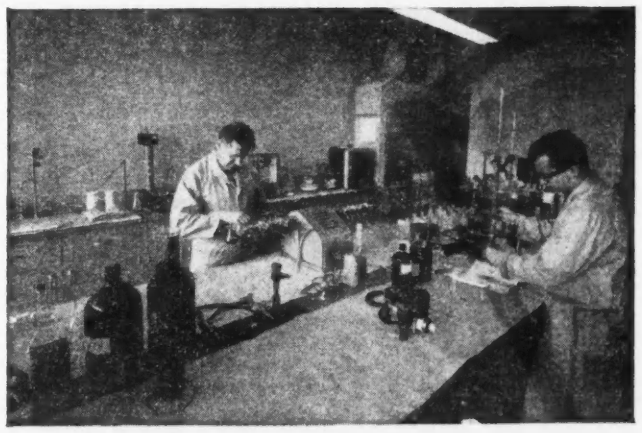
ENJAY

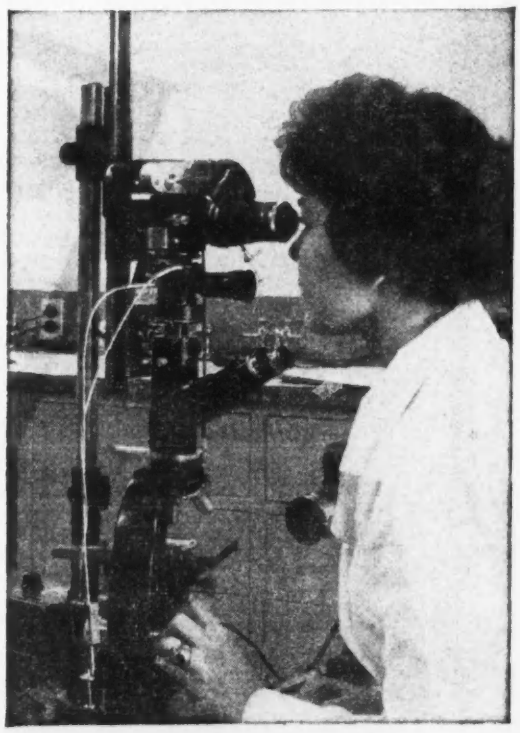
Caffeine, NF, citrated, dms., 100-lb. lots or more lb 2.70 • —
USP, syn., cryst., hydrous, dms., 100-lb. lots or more, frt. alld lb. 2.25 • —
hydrous, powd., 150-lb. dms., frt. alld lb. 2.25 • —
USP, syn., cryst., anhyd., powd., dms., 100-lb. lots or more, frt. alld. lb. 2.40 • —
Cajuput oil, native, cns. lb 1.75 2.00
Redist., USP cns lb 1.90 2.10
Calamine USP dms. lb. .34 —
Calamus oil bots lb.12.00 -20.00
Calciferol, cryst., 10-kilo or more lots, works gram .54 • —
1-10 kilo lots gram .55 • —
Calciferol, in edible oil (see Viosterol).
Calcium p-aminosalicylate trihydrate fib dms., 100 lbs. or more frt. adjusted lb 3.10 • —
Calcium bromide NF jars, 100 lbs. or more lb 1.10 • —
Calcium carbide standard generator size, 600-lb dms., c.l., dlvd ton.149.00 • —
Calcium carbonate, nat., dry-grd., air floated, 325 mesh, bgs., c.l. works ton.10.50 —
Chalk, whiting, 325 mesh, bgs., c.l., works ton.32.00 -34.00
water-grd., ½ to 10 microns, bgs., c.l., works ton.30.00 —
10 to 30 microns, bgs., c.l., works ton.17.00 -18.00
Precip., dense, bgs., c.l., works, ton.30.00 -38.50
bgs., l.c.l., works ton.45.00 -53.50
medium bgs., c.l., works ton.38.00 —
bgs., l.c.l. works ton.48.00 -53.00
Surface treated, bgs., c.l., works, ton.42.00 -44.00
bgs., l.c.l., works ton.57.00 -59.00
Paraffine, bgs., c.l., works ton.117.50 167.50
bgs., l.c.l. works ton.137.50 -187.50
Calcium chloride conc., flake or pellet 94-97%, paper bgs., c.l. works frt equald ton.39.30 • —
Flake, 77-80% paper bgs., c.l., works, frt equald ton.32.00 • —
Liquor, 40% tanks frt equald ton.12.50 • —
Powd., 77% min., paper bgs., c.l., works, frt. equald ton.38.00 • —
Purif., gran. dms lb .27 —
Solid, 73-75%, dms., c.l., frt. equald ton.30.50 • —
dms. l.c.l. works frt equald. ton.36.00 -73.00
USP, gran. dms. lb .32 • —
Calcium chromate, bgs., dlvd lb. .37 • —
Calcium cyclamate, 100-lb dms lb. 1.95 • —
Calcium gluconate, USP, AA grade, 100-lb dm., ton lb. 73½ • —
USP, powd, 100-lb dm. ton lb. .66½ • —
Calcium hydride lump dms. works, lb 2.20 3.00
Calcium hypochlorite, high test., gran., 45-lb. cs., dlvd E. of Rockies cs.27.50 • —
100-lb. dms., same basis dm.39.50 • —
Calcium hypophosphite, dms. 1,000 lb lots lb. 1.28 • —
Calcium iodide, 25-lb. jars, works, lb. 4.27 • —
Calcium lactate NF, dms., f.o.b. works lb. .43 • .48
Calcium mandelate USP, 150-lb. dm., works lb. 3.25 • —
Calcium naphthenate, liq., 4% Ca., dms., frt equald lb. .30 • —
Calcium pantothenate, USP 1 kilo or more kilo.20.00 • —
Calcium para-aminosalicylate (see Calcium p-aminosalicylate).
Calcium phenosulfonate dms lb 1.24 1.25
Calcium phosphate dibasic, USP, dihydrate, bgs., c.l., frt. equald 100 lbs. 8.25 • —
Feed grade, 18½% P, bgs., c.l., t.l., Bonnie, Fla., frt. equald ton.81.00 • —
bgs. c.l. t.l., f.o.b Texas City works ton.75.50 • —
Feed grade, 21% P., bgs., c.l., t.l., frt. equald ton.97.65 • —
bgs. l.c.l. frt equald ton.107.65 • —
Prices of calcium phosphate dibasic in bulk $3 per ton less than bgs., c.l., prices.
Calcium phosphate, monobasic, bgs., frt. equald 100 lbs. 7.45 • —
bgs., smaller lots same basis. 100 lbs. 7.95 • —
Tribasic, NF, precip., bgs., c.l., works, frt. equald 100 lbs. 9.25 • —
bgs. l.c.l. frt. equald 100 lbs.10.00 • —
Calcium propionate, any quantity, dms., dlvd E. of Rockies. lb. .34½ • —
Prices W. of Rockies 3c. per lb. more.
Calcium phytate bgs., 50 lbs. or more f.o.b warehouse N. Y lb. .39 • —
Calcium resinate, precip., dms., frt. alld., works lb. .45 • —
Calcium silicate hydrated, bgs., c.l., works lb. .06½ —
bgs., l.c.l., works lb. .07 • —
Calcium silicate paint grade (see Wollastonite).
Calcium stearate, ctns., c.l. lb. .39 • —
ctns., l.c.l lb. .40 • .44
Calomel NF mild, powd. dms., 100-lbs., f.o.b. works lb 4.32 • —
NF mild, precip., dms., 100-lbs., f.o.b works lb. 5.67 • —
Camphene 46° m.p., dms incl., c.l., works lb. .15 • —
dms incl., l.c.l., same basis lb. .16½ —
tanks, same basis lb. .12½ —
Camphene chlorinated 67-69% (see Toxaphene).
Camphor, monobromated, NF, dms., kgs lb. 3.63 3.70
Camphor, syn., tech., 1 bbl. or more. lb. .45 • —
USP, powd., bbls., 1,000-lb. lots lb. .56 • —
bbls., smaller lots lb. .57 • —
tablets, ctns., 1,000-lb. lots. lb. .80 • —
ctns., 500-lb. lots lb. .81 • —
ctns., smaller lots lb. .82 • —
Camphor oil, sassafrassy, dms. lb. .32 • .50
White, dms. lb. .24 • .40
Cananga oil, native, cns. lb. 5.00 6.50
Rectified, cns. lb. 7.25 -10.00
Candelilla wax, crude, bgs. lb. .57 • .59
Refd., pure, bgs. lb. .61 • .63
Powdered Candelilla wax 20 to 100 mesh, 8c. higher.
Cantharides, Chinese, cs. lb. 1.50 • —
powd. bgs. lb. 1.75 • —
Russian bgs. lb. 2.25 • —
powd. bgs. lb. 2.50 • —
Capric acid, dms lb. .27¼ .29¼
tanks lb. .24¼ —
Caprolactam monomer, flake, bgs., c.l., t.l., f.o.b. frt. equald. lb. .49 • —
bgs., l.c.l., l.t.l., same basis lb. .54 • —
molten, tanks, same basis lb. .46 • .463
Caprylic alcohol 85% dms., c.l., t.l., works lb. .19 • —
dms., l.c.l., same basis lb. .19½ —
tanks, frt. equald. lb. .16½ —

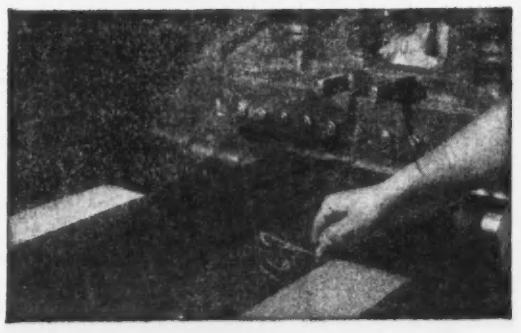
Caprylic alcohol, sec., 92-98%, dms., c.l., f.o.b. works lb. .22 • —
dms., l.c.l., f.o.b. works lb. .23 • —
tanks, f.o.b. works lb. .19½ —
Caprylic acid, dms lb. .27¼ .29¼
tanks lb. .24¼ —
Capsicum (see Pepper red).
Capsicum oil (see Capsicum oleoresin).
Capsicum oleoresin NF, from dom. pepper, dms lb. 4.00 • —
NF, from African pepper, dms. lb. 4.50 • —
Caraway oil, NF, dms. lb. 4.00 • 4.25
Caraway seed Danish, bgs. lb. .16 —
Dutch, bgs. lb. .19 • —
Carbazole, 97%, bbls, ton lots, works lb. 1.05 • —
Carbon black, channel, rubber, beads, bulk, c.l. works lb. .08 • —
bgs., c.l., works lb. .08½ —
bgs., l.c.l., ex whse. or dlvd lb. .16¼ —
Furnace, fast extruding, bulk, c.l., works lb. .06¼ —
bgs., c.l., works lb. .06¾ —
bgs., l.c.l., ex whse lb. .13½ —
high abrasion, bulk, c.l., works, lb. .07¼ —
bgs., c.l., works lb. .07¾ —
bgs., l.c.l., dlvd. or ex whse lb. .14½ —
high modulus, bulk, c.l., works, lb. .05¾ —
bgs., c.l., works lb. .06¼ —
bgs., l.c.l., ex whse lb. .13 • —
semi-reinforcing, bulk, c.l., works, lb. .05¼ —
bgs., c.l., works lb. .05¾ —
bgs., ctns., l.c.l. ex whse lb. .12½ —
pigment, high color beads, bgs., c.l., works lb. .78 • —
ctns., l.c.l., dlvd. or ex whse lb. .87 • —

Carbon black, medium color, uncompressed, bgs., c.l., works lb. .14 • —
bgs., l.c.l., dlvd. or whse. lb. .22½ • —
Carbon dioxide, indust., wholesale, bulk, 30,000-2,999,999 lbs., dlvd. Metropolitan areas, E ton.60.00 -115.00
bulk, 3,000,000 lbs. or more, dlvd Metropolitan areas, E ton.55.00 • —
Solid, bulk, wholesale, works ton.85.00 • —
Carbon disulfide, 55-gal. dms., c.l., works, frt. equald to competitive points lb. .071 • —
55-gal. dms., l.c.l., same basis lb. .086 • .091
5-gal. dms., 30 dms. to c.l., same basis lb. .131 • —
5-gal. dms., less than 30 dms., same basis lb. .161 • —
tanks, f.o.b. works lb. .0450 —
Carbon tetrachloride CP, consumers, dms., c.l., frt. alld. lb. .12¾ —
dms., l.c.l., frt. alld. lb. .15¼ • —
Tech., consumers dms., c.l., t.l., frt. alld lb. .11¾ —
dms., l.c.l. l.t.l. frt. alld lb. .14¼ —
tanks, frt alld lb. .10¾ .11¼
Carboxymethyl cellulose (see CMC).
Carbromal NF dms., 100-lb lots, works lb. 4.00 4.25
dms. smaller lots, works lb. 4.10 4.75
Cardamom oil, NF, bots lb.40.00 -43.00
Cardamom seed, bleached "A" lb. 3.15 • —
Bleached "B" lb. 3.00 • —
Decorticated Alleppey, cs. lb. 2.60 • —
Guatemala, cs. lb. 2.45 • —

Cardamom, green, Alleppey, bgs lb. 1.95 • —
Ceylon, bgs. lb. 2.00 • —
Carmine No. 40, NF, bulk, 100-lb lots or more dlvd. lb.16.80 —
bulk, smaller lots, dlvd. lb.16.90 -17.30
Carnauba wax, chalky, bgs., ton lots. lb. .56 • .58
North Country, No. 2, crude, bgs., ton lots lb. .64 • .65
refd., pure, ton lots lb. .72 • .74
North Country, No. 3, Ceara, crude, ton lots lb. .55 • .57
North Country, No. 3, Parnahyba, crude, ton lots lb. .57 • .59
No. 3, refd., pure, bgs., ton lots. lb. .65 • .66
No. 1, Ceara, yellow, bgs., ton lots. lb. .88 • .90
Parnahyba, yellow, bgs., ton lots. lb. .90 • .92
Powdered carnauba wax, 20 to 100 mesh 8c. per lb. higher
Carotene tech., 1,350,000 A units per gram tins, 5-10 kilo lots, dlvd gram. .20½ —
in carrot oil, 5,000,000 to 8,000,000 A units per lb., dms., works million units. .12 • —
USP, microcrystalline in oil, 400,000 A units per gram., dms., dlvd million units. .144 • —
b-Carotene, in vegetable oil, sea.l solid suspension 400,000 A units per gram, cns kilo.57.60 • —







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From the research that has made so many major contributions to the science of carbon-reinforced rubber . . . to the workable, practical ideas that provide greater production efficiency and improved products . . . Columbian's technical service team is rated outstanding throughout the industry! Today, as always, Columbian's technical service is a most potent reason for specifying Columbian blacks!

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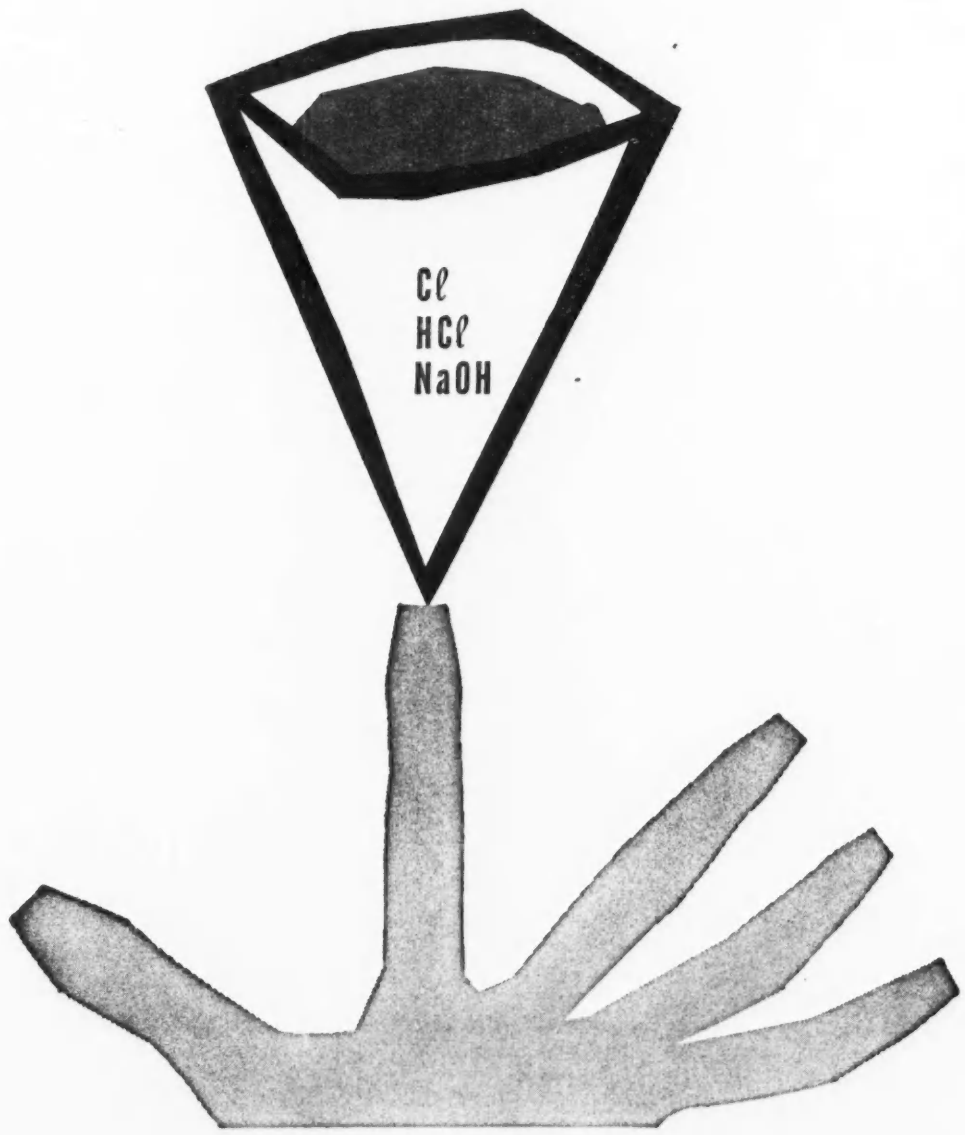
International distributor
COLUMBIAN CARBON INTERNATIONAL, INC.

b-Carotene, liquid in vegetable oil, 500,000 A units per gram, cns kilo 72.00 • —
b-Carotene, pure, cryst., 1,600,000 to 1,670,000 A units per gram, cns kilo 240.00 • —
Carvol, bots. lb. 5.00 5.40
Cascara sagrada bark, bulk lb. .32 • —
Casein, dom edible, acid precip., 30 mesh, bgs., 10,000-lb. lots or more, works lb. .40 • —
80 mesh, bgs., 10,000-lb. lots or more, works lb. .46 • —
Imp., inedible, acid-precip., grd., Argentine, bgs. c.l., ex-dock, Eastern seaport lb. .19 • .19¼
Australian, same basis lb. .20 • .21
New Zealand, same basis lb. .24 • .25
Cashewnut shell liquid treated, dms. c.l. Newark, N.J lb. .24 • —
dms. ton lots same basis lb. .25 • —
t.w. same basis lb. .22½ • —
Cassella acid, dms. frt. alld., 100% basis lb 1.44 1.75
Cassia oil, redist., USP, cns. lb 6.50 8.00
Cassia, Padang, "A," bls. lb. .28½ • —
"B," bls. lb. .27½ • —
"C," bls. lb. .25½ • —
Korintje "A," bls. lb. .27½ • —
"B," bls. lb. .26½ • —
"C," bls. lb. .25¼ • —
Castor oil, dom., blown, dms., c.l. lb. .2550- —
dms., l.c.l. lb. .2650- —
Castor oil, dehydrated, bodied, dms., c.l. lb. .2710- —
dms., l.c.l. lb. .2860- —
tanks lb. .2510- —
dehydrated, unbodied, dms., c.l., lb. .2560- —
dms., l.c.l. lb. .2660- —
tanks lb. .2360- —
hydrogenated, bgs., c.l. lb. .2425- —
bgs., ton lots lb. .2825- —
bgs., l.c.l., dlvd. lb. .3025- —
raw, No. 1, dms., c.l. lb. .2200- —
dms., l.c.l. lb. .2300- —
tanks lb. .2000- —
No. 3, tech., dms., c.l. lb. .2125- —
dms., c.l., lb. .2225- —
tanks lb. .1925- —
refd., deod., dms., c.l. lb. .2650- —
dms., l.c.l. lb. .2750- —
tanks lb. .2450- —
USP, dms., c.l. lb. .2350- —
dms., l.c.l lb. .2450- —
tanks lb. .2150- —
Castor oil, imported, No. 1, Braz., tanks, New York lb. .16 • .16¼
No. 3, tanks, same basis lb. .15¾ • .16
Sulfonated, 50%, dms., works lb. .15 • .15½
75%, dms. works lb. .19 • .19½
Castor oil acids, dehydrated, dms. lb. .41¼ • .43¼
Split, dms. lb. .33¾ • .34¾
Castor pomace, bgs., c.l., works ton 35.00 • —
Castoreum, nat., cns. lb. 5.25 • —
Syn., cns. lb. 9.00 • —
Catechol, CP, cryst., fib., dms., works lb. 2.17½ • —
Resub., dms., works lb. 4.29½ • —
Catnip leaves, Southern, bls. lb. Nominal.
Caustic potash (see Potash caustic).
Caustic soda (see Soda, caustic).
Cedarleaf oil, USP XIII cns., dms. lb. 3.30 • 3.50
Cedarwood oil, cns., dms. lb. 1.10 • 1.25
Celery seed oil lb. 12.00 • —
Celery seed, French, bgs. lb. .34 • —
Indian, bgs. lb. .26 • —
Cellulose acetate, flake, powd., bgs., t.l., dlvd. E lb. .36 • .51
Cellulose acetate-butyrate, powd., 17% butyryl content, bgs., dlvd. E lb. .545 • .555
27% butyryl content, bgs., dlvd. E lb. .595 • .605
38% butyryl content, bgs., dlvd. E lb. .545 • .555
38% butyryl content, half-second, bgs., dlvd. E. lb. .545 • .555
50% butyryl content, bgs. dlvd. E lb. .585 • .595
Cellulose gum, methyl (see Methyl Cellulose).
Cellulose gum, pure, high vis., bgs., 23,000-lb. lots or more works, frt alld lb. .57 • —
bgs., smaller lots, same basis lb. .59 • —
standard, low or medium vis., bgs., c.l., t.l., frt. alld. E lb. .57 • —
bgs., ton lots, frt. alld. E lb. .59 • —
(Cellulose gum prices 1c. per lb. higher in west.)
Cerium hydrate, 74% CeO, fib. dms., 100-lb. lots or more lb. 1.40 • —
77% CeO, fib. dms., 100-lb. lots or more lb. 1.74 • —
Cerium oxalate (see Rare earth oxalate).
Cerium oxide, optical grade, bgs., 50-lb. lots or more, dlvd. lb. 1.85 • 1.90
bgs., smaller lots, dlvd. lb. 2.15 • —
Cetyl alcohol, NF, fib. cns., c.l., t.l., dlvd. E lb. .41½ • —
fib. cns., l.c.l., same basis lb. .43½ • —
tanks, same basis lb. .39 • —
Extra, cns., c.l., t.l., dlvd. E lb. .48½ • —
fib. cns., l.c.l., same basis lb. .50½ • —
tanks, same basis lb. .46 • —
Chalk (see Calcium carbonate).
Chamomile flowers, Hungarian, lb. .95 • 1.10
Roman, cs. lb. 1.75 • 2.00
Chamomile oil, blue Hungarian, bots lb. 350.00 • —
Charcoal, activated, NF, fib dms., c.l., works lb. .34 • —
fib. dms., 5-ton lots, works lb. .35 • .35½
fib. dms., smaller lots, works lb. .36 .59
Charcoal, black (see Charcoal, activated).
Charcoal, bone (see Bone black).
Charcoal, hardwood, lump, bulk, c.l., f.o.b. plant ton 55.00 • —
briquets, bulk, c.l., f.o.b. plant ton 80.00 • —
5-lb. paper bgs., c.l., same basis ton 106.00 • —
20-lb. paper bgs., c.l., f.o.b. plant ton 90.00 • —
40-lb. paper bgs. c.l., same basis ton 86.00 • —
Chenopodium oil, NF, cns. lb. 4.70 • 4.90
Chicago acid, paste, bbls., frt. alld. lb. 3.21 • —
Chinawood oil (see Tung oil).
Chloral, tech., 94% min., dms., c.l., works lb. .23 • —
dms., l.c.l., works lb. .24 • —
tanks, multiple units, 5 cars, dms., l.c.l., works lb. .21 • —
Chloral hydrate, USP, jars, 1,000-lb. lots lb. 1.00 • —
jars, 500-lb. lots lb. 1.03 • —
jars, 100-lb. lots or less lb. 1.05 • —
Chlordan, agricultural, dms., c.l., frt alld lb. .65 • —
dms., l.c.l., 5,000-10,000-lb. lots, frt alld lb. .66 • —
clarified, dms., c.l., frt. alld lb. .69 • —
dms., l.c.l., 5,000-10,000-lb. lots, frt alld lb. .70 • —
Chlorinated paraffin, 40%, dms., c.l., frt. alld lb. .15 • —
dms., l.c.l., 10 dms. or more, same basis lb. .16 • —
70%, dms., c.l., same basis lb. .18½ • —
dms., l.c.l., 10 dms. or more, same basis lb. .19½ • —
Chlorinated rubber, 5, 10, 20 cps., ctns., c.l., works lb. .60 • —
ctns., l.c.l., works lb. .61 • —
125 cps., ctns., c.l., works lb. .70 • —
300 cps., ctns., c.l., works lb. .80 • —
Chlorine, liq., cyls., c.l., works, frt. equald lb. .11 • —
cyls., l.c.l., Metropolitan area, same basis lb. .12½ • .13¾
tanks, single units, works, frt. equald 100 lbs. 3.25 • —
tanks, multiple units, 5 cars, works, frt. equald, same basis 100 lbs. 4.15 • —
Chlorine, liq., tanks, multiple units, 4 cars, same basis 100 lbs. 4.35 • —
tanks, multiple units, 2 cars, same basis 100 lbs. 5.35 • 5.85
tanks, multiple units, 1 car, same basis 100 lbs. 6.25 • 7.25
Chloroacetic acid, mono, flake, 99%, purif., dms., c.l. lb. .23½ • .25¼
dms. l.c.l. lb. .24½ • —
Tech., flake, 96-97%, dms., c.l., frt. equald lb. .19 • —
dms., l.c.l., frt. equald lb. .20 • —
2-Chloro-4-aminotoluene, tech., liq., dms., frt. alld lb. 1.03 • —
4-Chloro-2-aminotoluene, fused, bbls. lb. 1.38 • —
6-Chloro-2-aminotoluene, tech., liq., dms., frt. alld lb. .66 • —
m-Chloroaniline, dms., c.l., frt. alld. lb. .75 • —
dms., l.c.l., same basis lb. .77 • —
tanks, same basis lb. .73 • —
o-Chloroaniline, dms., c.l., frt. alld. lb. .52 • —
dms., l.c.l., same basis lb. .54 • —
tanks, same basis lb. .50 • —
p-Chloroaniline, dms., c.l., frt. alld. lb. .77 • —
dms., l.c.l. same basis lb. .79 • —
o-Chlorobenzaldehyde, dms., t.l., works lb. 1.05 • —
dms., t.t.l., same basis lb. 1.20 • —
p-Chlorobenzaldehyde, dms., l.c.l., works lb. 1.95 • —
o-Chlorobenzoic acid, fib. dms., t.l., works lb. 1.10 • —
fib. dms., smaller lots, works lb. 1.25 • —
p-Chlorobenzoic acid, fib. dms., 2,000-lbs. or more, works. lb. 2.25 • —
fib. dms., less than 2,000-lbs., same basis lb. 2.30 • —
Chloroform, tech., dms., c.l., dlvd. E lb. .18 • —
dms., l.c.l., same basis lb. .19 • —
tanks, same basis lb. .17 • —
USP, dms., c.l., dlvd. lb. .27 • —
dms., l.c.l., dlvd. lb. .30 • —
tanks, minimum 4,000 gals. dlvd. lb. .25 • —
2-Chloro-4-nitroaniline, paste, dlvd. E., 100% basis lb. .90 • —
Powd., dlvd. E., 100% basis lb. 1.00 • —
4-Chloro-2-nitroaniline, powd., dlvd. E lb. .86 • —
4-Chloro-2-nitrophenol, tech., paste, dms. frt. alld lb. .75 • —
4-Chloro-2-nitrotoluene, tech., solid, dms., frt alld lb. .99 • —
6-Chloro-2-nitrotoluene, tech., solid, dms., frt. alld lb. .25 • —
o-Chlorophenol, dms., c.l., frt. equald lb. .37 • —
dms. l.c.l. same basis lb. .38 • —
p-Chlorophenol, dms., c.l., frt. equald lb. .37 • —
dms. l.c.l. same basis lb. .38 • —
Chloropicrin, coml., cyls., 180 lbs., frt alld lb 1.07 • —
cyls., 100 lbs., same basis lb. 1.08 • —
cyls., 50 lbs., same basis lb. 1.14 • —
Chlorosulfonic acid, dms., c.l., frt. equald lb. .0465- —
dms., l.c.l. frt. equald lb. .0515- —
tanks, frt. equald lb. .0415- —
Chlorosulfonic acid, in stainless steel dms ½c per lb higher
o-Chlorotoluene, tech., dms., t.l., works lb. .37 • —
dms., l.c.l., t.t.l., same basis lb. .38 • —
Choline bitartrate, 100-lb. dms., frt. equald lb. 1.25 • —
Choline chloride, 100-lb. dms., frt. equald lb. 1.25 • —
Choline dihydrogen citrate, 100-lb. dms. frt equald lb. 1.25 • —
Chrome green, CP, dark, light medium blue content, 1.15%, bbls. dlvd. E. of Rockies. lb. .43 • —



BALANCING ACT. Ever try to balance a paper cup of water on your finger? It takes perfect control . . . so does manufacturing of the chemicals used in purifying water and in making the paper for the cup. At Arkla we maintain constant quality control of the chemical manufacturing processes. We think speedy delivery is important, too, and one order will convince you of our fast service. May we take your order?

ARKLA

ARKANSAS LOUISIANA CHEMICAL CORPORATION

CHLORINE HYDROCHLORIC ACID CAUSTIC SODA 50%-73%

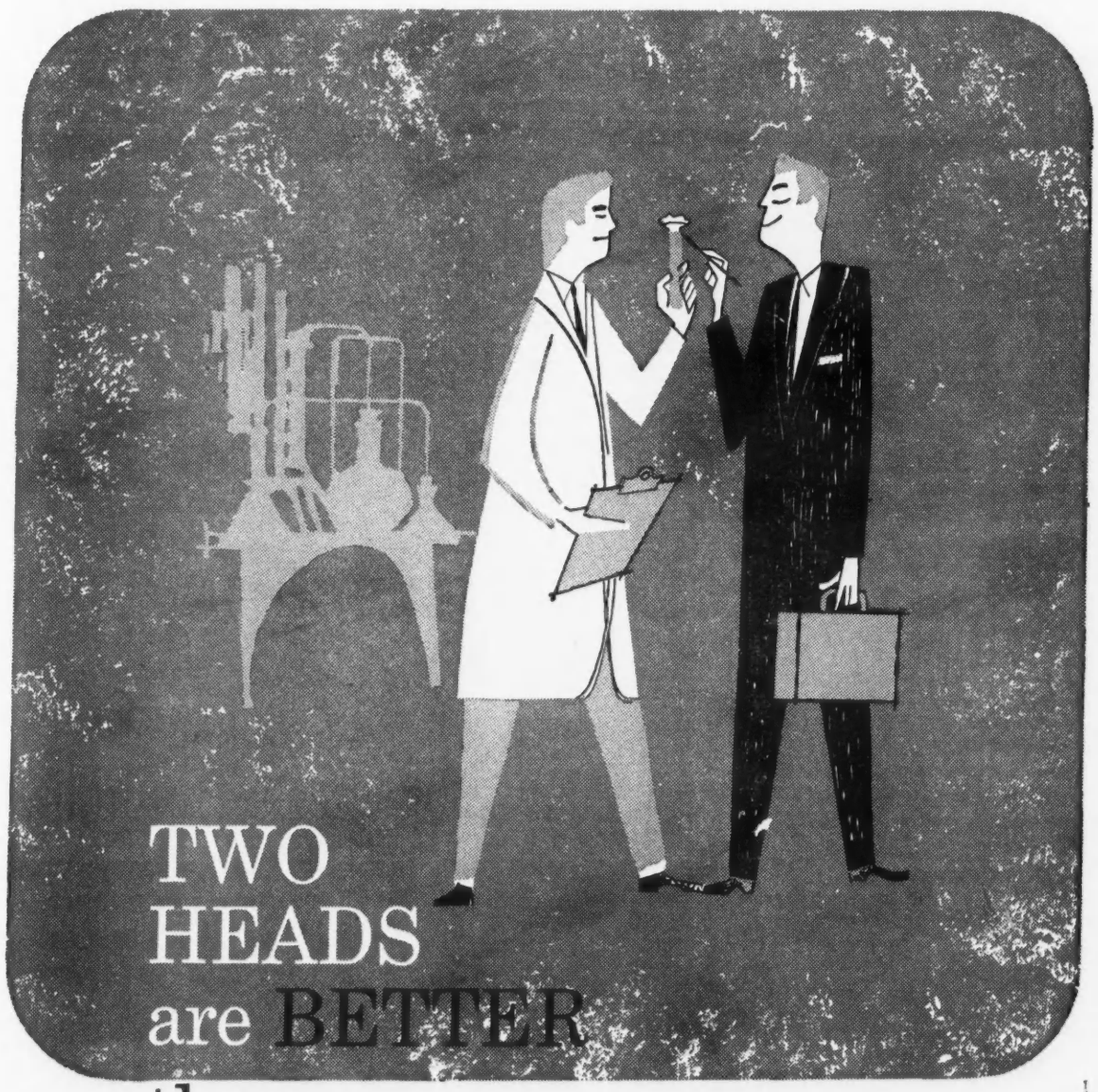
PLANT: PINE BLUFF, ARKANSAS • SALES OFFICE: SLATTERY BUILDING, SHREVEPORT, LOUISIANA

Chrome green, CP, dark, light medium blue content, 16-30%, bbls., same basis lb. .44 • —
31-45%, bbls., same basis. lb. .44 • —
45-49%, bbls.., same basis.lb. .45 • —
reduced color 25%, bbls., same basis lb. .20 • —
Chrome green prices 1c. higher W of Rockies.
Chrome orange, CP, bbls., dlvd. E. of Rockies lb. .35 • —
Chrome orange prices 1c higher W of Rockies.
Chrome yellow CP, bbls., dlvd. E. of Rockies lb. .35 • —
Chrome yellow price 1c. higher W of Rockies.
Chromic acid, 99¾%, dms., c.l., works, frt. equald lb. .29½- —
dms., l.c.l., dlvd. N. Y Metropolitan area lb. .30 · .31
Chromic acid, NF (see Chromium trioxide)
Chromium acetate, soln., 7½%, dms., 500-2,000-lb lots, works, lb. .10 • —
Chromium fluoride bbls., works lb. .51 · .52
Chromium oxide, hydrated, bbls., fib dms, c.l. frt .alld. lb. 1.20 · —
Pure, bgs., c.l., frt alld .... lb. .44½- —
bgs., l.c.l., same basis .... lb. .45¼- —
Chromium trioxide, NF bots lb. 1.15 · —
Cinchona bark, NF, red, broken, bgs lb .25 · —
NF, yellow broken, bgs lb. .35 · .40
Cinnamic acid, refd., bots .... lb. 2.50 3.50
Cinnamic alcohol, bots ..... lb. 1.50 · 1.60
Cinnamic aldehyde dms. ..... lb. .80 · 1.00
Cinnamon, Ceylon, No. 2, bgs..... lb. .55 • —
Ceylon, No. "0000," bgs ..... lb. .64 • —
Cinnamon bark oil, bots. ..... lb.64.00 • —
Cinnamon leaf oil, crude, dms lb. 1.60 2.00
Citral, CP, bots..... lb. 4.65 · 5.55
Extra, bots ..... lb. 5.00 · 7.25
Syn., dms. ..... lb. 6.10 · 6.65
Citric acid, USP, anhyd., hydrous, gran., 100-lb. bgs., f.o.b. works lb. .27½- —
100-lb. bgs., 10,000-lb. lots, same basis lb. .28 • —
250-lb. dms., c.l., same basis lb. .27*- —
250-lb. dms., 10,000-lb. lots, same basis lb. .28½- —
Citric acid powder ½c. per lb. higher.
Citronella oil, Ceylon, dms.....lb. 1.05 • —
Formosan, dms. .....lb. 1.15 • —
Citronellal, bots. dms. .....lb. 1.40 • 1.60
Citronellol, bots. dms. .....lb. 1.90 2.50
Synthetic, dms. .....lb. 1.70 • —
Civet, artif., bots .....lb.13.75 -15.00
Nat. bots ..... oz 8.50 -15.00
Clay, ball, dom. airfloated, bgs., c.l., Tenn ton.17.50 -21.50
crushed shed moisture, bulk, c.l., Tenn ton. 8.00 -11.25
imp. airfloated bgs., c.l., Atl. port net-ton.43.00 -47.00
lump, bulk, Atl. port net-ton.31.50 -37.50
Clay, China, dom., dry-grd., airfloated, 99%, 325 mesh, Georgia bgs., c.l., works. ton.11.00 -17.00
Georgia, bgs. l.c.l., works. ton.13.50 -22.50
Clay, imp., white, lump, bulk, c.l., ex-dock, Philadelphia, Portland, Me long-ton.23.00 -35.00
white, powd. bgs. c.l. ex dock net-ton.50.00 —
bgs., l.c.l. ex whse net-ton.60.00 -70.00
Cleaner's naphtha, petroleum, 105°F Flash, tankcars, New Jersey and New York gal. 18 —
Group 3 gal. .12@75 —
Houston, Texas gal. .145 —
140°F Flash, tankcars, New Jersey or New York gal. .205 • —
Group 3 gal. .154 • —
Houston, Texas gal. .17 • —
Cleve's acid, tech., mixed, solid, dms., frt. alld lb. 1.05 • —
1.6, tech., solid dms frt. alld lb. .77 • —
1.7 tech., dms frt. alld. ..... lb. 2.42 • —
Clove bud oil, USP, dms. .....lb. 2.55 • —
Cloves, Madagascar, bgs.....lb. .36 • —
Zanzibar, bgs. .....lb. .39 • —
Clove leaf oil, crude, dms .....lb. 1.10 • —
CMC, crude, 96.4% low or medium vis bgs., 23,000 lbs., dvld. E., 100% basis lb. .40 • —
96.4% low, or medium vis., bgs., less than 23,000 lbs., dlvd. E., 100% basis lb. .42 · .46
65%, low or medium vis., bgs., c.l., dlvd. E., 100% basis lb. .40 • —
l.c.l., dlvd. E., 100% basis lb. .42 · 1.00
CMC, purif, high vis. (see Cellulose gum).
CMC prices W. of the Rockies are ½c. per lb. higher and are on a dlvd. basis.
Coaltar, crude, resale for soln., tanks, works gal. .17 • —
Refd., resale, indust., dms., c.l., ex whse gal. .35 • —
dms., l.c.l., ex whse gal. .39 • —
tanks works gal. .20½- —
Coaltar pitch, aluminum, bulk, works ton.42.00 • —
Carbon, bulk works .....ton.42.00 • —
Indust., bulk, works.....ton.44.00 • —
Core, bulk works ..... ton.40.50 • —
Fiber, bulk works ..... ton.48.00 • —
Roofing, 140-155°F., Federal Specification RP-381 Type I tanks, works ton.41.00 • —
Cobalt acetate, 23.6% Co., dms., dlvd lb. 1.04 · —
Cobalt blue, genuine, 250 lb. bbls., dlvd E. of Rockies lb. 4.90 • —
Cobalt blue prices 1c. higher W. of Rockies
Cobalt blue, imitation (see Ultramarine blue)
Cobalt carbonate, 48% Co., powd., bgs., dlvd lb. 1.45 • —
Cobalt chloride, 24.2% Co., dms., dlvd lb. .93 • —
Cobalt hydrate, 60-61% Co., dms., dlvd lb. 1.97 • —
Cobalt linoleate, fused 8½% Co., dms lb. .71½- —
Liq., 6% Co., dms ..... lb. .44 · —
Cobalt metal, 99% dms., f.o.b. carrier lb. 1.50 · —
Cobalt naphthenate, liq. 6% Co., dms. dlvd lb. .48¾- —
Cobalt nitrate, 20.1% Co. bbls. dlvd. lb. .75 · —
Cobalt oxide, black, ceramic grade, 72½-73½% Co., kgs., dlvd E. of Mississippi R. lb. 1.15 · —
70-71% Co. kgs. same basis lb 1.12 —
Cobalt oxide prices W. of Mississippi R. 3c. per pound higher
Cobalt phosphate, powd., 32.1% Co., dms. dlvd lb 1.35 —
Cobalt resinate, fused 3% Co. dms lb. .38½- —
Cobalt sulfate, cryst., 21% Co., dms., dlvd lb. .64 · —
Monohydrated, 33% Co., dms., dlvd lb. 1.09 • —
Cobalt tallate, 6% Co., dms. dlvd lb. .44 • —

Cocaine, USP, cns., 100-oz. lots, f.o.b works oz.17.50 • —
Cocaine hydrochloride, cns., 100-oz. lots, f.o.b. works oz.13.75 • —
Cocillana bark, bls. .....lb. .20 • .22
Cocoa butter, bgs.....lb. .63 • .70
Coconut oil, crude, tanks, New York, lb. .11⅞- .12
tanks, Pac. coast .....lb. .10½- —
refined, deod., dms .....lb. .18 • .19
Coconut acid, oil, dist. dms....lb. .21½- .24
tanks .....lb. .19 • —
double dist. (stripped), dms. ..lb. .22½- .25
tanks .....lb. .20 • —
Cod oil, dms., spot.....lb. .08½- .08¾
Codeine, NF, cns., 100-oz. lots oz.13.25 • —
Codeine hydrochloride cns., 100-oz. lots oz.11.75 • —
Codeine phosphate, USP, cns., 100-oz. lots oz.10.25 • —
Codeine sulfate, USP cns. 100-oz. lots oz.10.75 • —
Codliver oil, USP, dms ..... gal 1.40 · 1.70
Cohosh root, black, bls ..... lb .20 .25
Blue, bls. ..... lb .20 .25
Colchicine, USP, bots. ..... 27.50 -29.00
Colchicum root, bls ..... lb .35 .45
Colchicum seed, bgs. ..... lb. Nom.
Collodion, USP, dms.....lb. .32½- —
USP flexible dms ..... lb. .34 —
Colocynth pulp, bls. ..... lb. .75 —
Colombo root, bls ..... lb. .16 .18
Condurango bark, bls ..... lb. .18 .20
Copaiba balsam, cns., dms.....lb. .85 · .95
Copaiba oil, cns..... lb 1.35 2.00
Copper acetate, bbls., c.l., works. lb. .53 · —
bbls., l.c.l., works lb. .54 · —
Copper carbonate, 55%, dark dense, c.l., works lb. .3545- —
bgs., l.c.l., works .....lb. .3695- —

Copper chloride, cupric, anhyd., dms., works lb. .44½- .45
cryst., dihydrate, dms., works. lb. .30¾- .31⅛
cryst., dried, dms., works lb. .38¾- .39¼
cuprous, dms., works .....lb. .3995- .4295
Copper cyanide, tech., dms., 20,000-lb lots or more lb. .609 —
dms., 1,000-lb lots or more lb. .619 —
dms., smaller lots lb. .639 .65
Copper gluconate, dms lb. 3.20 —
Copper hydrate, dry, dms, c.l., frt. E of Miss lb. .52½- —
dms., l.c.l., same basis lb. .53 · —
Copper metal, electrolytic, dlvd. Valley, basis lb. .31 · —
Copper naphthenate, liq. 8% Cu, dms frt alld lb. .26½- —
Copper nitrate, tech., cryst., dms., works lb. .30¾ .32¾
Copper oleate, solid, 9% Cu, dms., works lb. .45 · —
Copper oxide, black, bbls., 100-5,000-lb. lots, works lb. .47 · —
red, 97%, USN Type I, bbls., 100-5,000 lbs. lots lb. .47½- —
90%, USN Type II, bbls. 100-5,000-lb. lots or more, works lb. .45½- —
Copper quinolinolate, 18% Cu, dms., ton lots lb 4.25 · —
10% active quinolinolate, dms lb 1.14 · 1.15
Copper resinate, precip., dms., frt. alld. lb. .47 · —

Copper sulfate, CP, gran., dms., works lb. 1885- —
Cryst., 99%, bgs., c.l., works 100 lbs.12.50 · —
bgs., l.c.l., works 100 lbs.13.00 -15.50
Monohydrated, 35%, dms., c.l., works 100 lbs.23.35 —
dms., l.c.l., works .....100 lbs.24.10 —
Copper sulfate, tribasic, distributors, 50-lb. bgs., c.l., works 100 lbs.28.60 · —
bgs., l.c.l., works 100 lbs.30.10 · —
Copper undecylenate, dms lb 2.75 —
Copra, Atl., Gulf ports .....ton.151.50 · —
Pac. coast, c.i.f. .....ton.146.50 · —
Coriander oil, USP, bots. .....lb. 5.75 · 6.25
Coriander seed, Moroccan, bgs. lb. .19 · —
Rumanian, bgs. .....lb. .17 · —
Yugoslavian bgs lb .08½ —
Corn oil, crude, tanks, works ...lb. .21½- —
Foots, (soapstock, 95% acid), tanks, New York .lb. .05¾- —
Refd., salad, dms. .....lb. .2741- .2765
tanks .....lb. .2541- —
Corn oil, acid, dms.....lb. .16 · .18½
tanks .....lb. .13½- —
Corn sugar, tanners, chipped, paper bgs., c.l., 60,000 lbs. min. 100 lbs. 7.30 · —
paper bgs., l.c.l ....100 lbs 7.45 · —
Corn syrup, 43° Be., tanks, dlvd. N Y 100 lbs. 6.15 · —
non-ret. dms., c.l., same basis. 100 lbs. 7.23 · —
Corrosive sublimate (see Mercuric chloride).



than one

A key ingredient of every shipment from PITT-CONSOL is the know-how and cooperation of our research staff. Always available to help with your specific problems, always at work to bring you top quality chemicals, these men stand ready to be a vital part of YOUR profit picture. Add their knowledge to yours on every problem. For the best in Cresylics and their derivatives, for the best in service, contact PITT-CONSOL.

PITT-CONSOL CHEMICALS

PITT-CONSOL Chemical Company

191 Doremus Avenue • Newark 5, N. J.
A SUBSIDIARY OF CONSOLIDATION COAL COMPANY

HIGH QUALITY PHENOLS • CRESOLS • CRESYLIC ACIDS • RUBBER CHEMICALS • ARYL MERCAPTANS • ALYKL PHENOLS

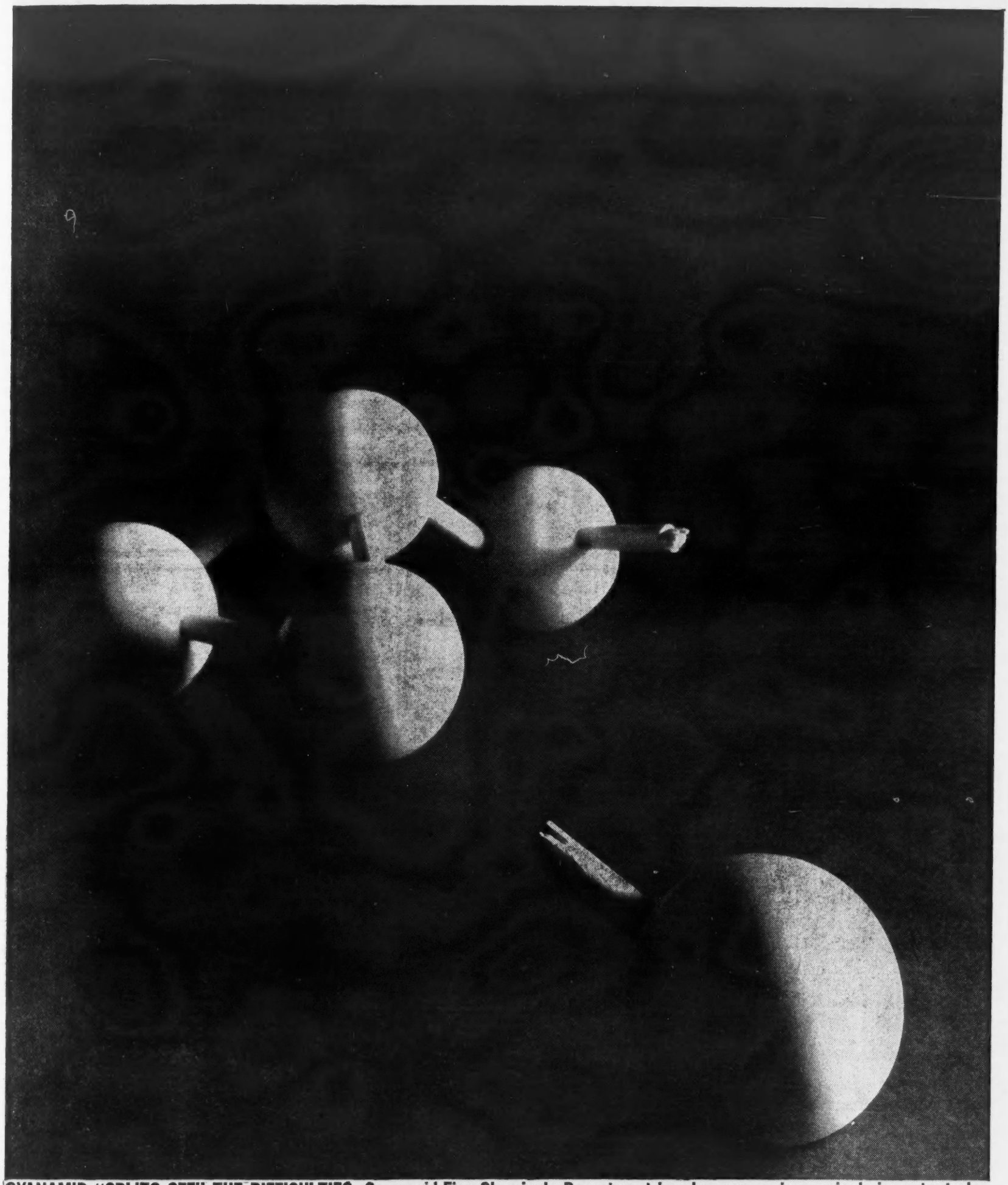
Cortisone acetate, USP, bots., kilo or more gram .85 - .90
Costus oil, bots oz. 6.00 - —
Cottonseed meal, 41% bgs., Memphis ton 63.50 - 64.50
Cottonseed oil, crude, tanks, South, Est lb. .12⅜-
tanks, Valley lb. .12¼- —
tanks, Tex., Waco lb. .12⅛- —
Foots (soapstock, acid 95%), New York, tanks lb. .04¼- —
Refd., salad, dms lb. .17¾- .18
tanks lb. .15¾- —
Cottonseed oil acids, dist., dms lb. .16 - .18½
tanks lb. .13½- —
Coumarin, NF, cryst., dms. lb. 3.20 3.30
Cramp bark, NF, bls lb. 90 1.00
Cream of tartar (see Potassium bitartrate).
Creosote carbonate, NF, bots, chys., lb. 3.05 3.26
Creosote, coaltar, crude, tanks, works, frt adjusted gal. .24 —
Crude, soln 80% tanks, works, gal. 226 —
Refd, dms, c.i., works gal. 50 - —
dms., l.c.l., same basis gal. .62 - —
tanks, same basis gal. .38 - —

West Coast creosote prices computed on a basis of 24c per gallon for straight oil and 20c per gallon for coaltar.

Creosote, beechwood, chys, dms., f.o.b. works, dlvd in Metropolitan area lb 1.72 1.77
Hardwood, NF, chys, dms, same basis lb 1.42 1.47
Pinewood, dms, incl. c.i. works, lb. 0611- —
dms, incl. l.c.l. works lb. 0684- —
dms, incl. l.c.l. ex whse, New York lb. 0795- —
tanks, works lb. 0511- —
Creosote oil (see Creosote coaltar).
Cresol, tech., 50% below 204°C., dry above 207°C., wide distillation range, non-ret. dms, c.i. frt alld lb. .16½ —
non-ret, dms, l.c.l., same basis lb. .17½ —
tanks, same basis lb. .145 —
USP, 50% 204°C., dry above 207°C., wide distillation range, non-ret, dms., c.i., same lb. .18 - —
Cresol, USP, 50%, 204°C., dry above 207°C., wide distillation range, non-ret, dms, c.i., same basis, lb. .19 -
tanks, same basis lb. .16 - —
m-Cresol, 95-98%, dms, c.i., works, lb. 60 -
dms, l.c.l., works lb. 61 - —
m-p-Cresol, 5-95%, 3°C., dms., c.i., frt, equald lb .18 - —
dms., l.c.l., same basis lb .19 - —
tanks, same basis lb .16 - —
2,97% 2°C, dms, c.i, frt, equald, lb. .22 - —
dms., l.c.l., same basis lb .23 - —
tanks, same basis lb .20 - —
o-Cresol, 30.5°C, m.p. and over, ret., dms, c.i, frt equald lb .17 - —
ret, dms, l.c.l., same basis lb .18 - —
tanks, same basis lb .15 - —
30° 30.49 C, m.p., dms, c.i., frt, equald lb. .16½ —
ret, dms., l.c.l., same basis lb. .17½ —
tanks, same basis lb. .14½ —
29°-29.9°C, m.p., dms, c.i., frt, equald, lb. .16 - —
ret, dms, l.c.l., same basis lb. 17 - —
tanks, same basis lb. .14 - —
25° 28°C, m.p., dms, c.i., frt, equald lb. .15 - —
ret, dms, l.c.l., same basis lb. .16 - —
tanks, same basis lb. .13 - —
p-Cresol, 98% dms, c.i., f.o.b., frt, alld. lb. .50 - —
dms., l.c.l., same basis lb. .52 - —
tanks, same basis lb. 45 - —
p-Cresyl methyl ether, cns lb 1.80 2.05
Cresylic acid, coaltar, dom., metapara content above 25%, resins and tricresyl phosphate grades, dms., c.i., t.i. frt equald gal 1.35 - —
dms., l.c.l., same basis gal 1.40 - —
tanks, same basis gal 1.15 - —
metapara content 25% or less, dms., c.i., t.i. same basis gal 1.20 - —
dms., l.c.l. same basis gal 1.25 - —
tanks, frt, equald gal. 1.00 - —
Imp., metapara content 25% or less, f.o.b. works, frt, equald to competitive points, c.i. gal. 1.15 - —
l.c.l., f.o.b., works gal. 1.20 - —
tanks, same basis gal. 1.00 - —
Crotonaldehyde, 91-93% dms., t.c.l., works lb. .25 - —
Crotonic acid, 200-lb. dms., c.i., dlvd lb. .49 - —
dms., l.c.l., dlvd lb. .51 - —
Cryolite, nat., indust., bgs., c.i., works 100 lbs. 13.00 —
bgs., l.c.l., works 100 lbs. 14.25 —
Cubeb oil, cns lb. 8.50 - 8.75
Cube root, powd., 5% rotenone, bgs., t.i., works lb 21 —
bgs., t.i., works lb 22 - —
Cubeb berries, NF, bgs. lb 1.30 - —
Powd., cs. lb 1.45 - —
Cumene, dms, c.i., works lb .12 - —
dms, t.c.l., works lb .14 - —
tanks, works lb .11 - —
Cumin seed, Iranian, bgs. lb. .17 - —
Turkish, bgs. lb. .16½- —
Cumin seed oil, bots, cns lb. 15.50 - 17.00
Cyanamide, fertilizer, mixing grade, 21% N, gran, bgs., Niagara Falls, Ont., contract ton 57.00 —
pulv., 21% N, bgs., works, unit-ton 2.85 - —
Cyanamide, indust grade, bgs., c.i., works ton 75.00 - —
bgs., t.c.l., works ton 96.00 - —
Indust grade, 6-16 mesh, dms, c.i, works ton 120.00 —
dms, t.c.l., works ton 140.00 - —
Cyclohexane, 98% tech, dms, c.i., dlvd E of Rockies gal 1.02 —
dms, l.c.l, same basis gal 1.10 —
dms, c.i, dlvd W of Rockies gal. 77 - —
dms., t.c.l., same basis gal. 85 - —
tanks, works gal 55 —
Cyclohexane, 93%, tech., 40-dm. lots or more, f.o.b. works gal. .56 - —
5-39 dms, same basis gal 60 —
tanks, same basis gal .36 —
Cyclohexanol, tech, dms, c.i., works, frt, alld, E lb. .30½- —
dms, t.c.l, works, same basis, lb. .31½- —
tanks, works, same basis lb. .28 - —
Cyclohexanone, tech, dms., c.i., works lb. .33½- —
dms., t.c.l., works lb. .34½- —
tanks, works lb .31 - —
Cyclohexylamine, tech, dms., c.i., works lb .49 - —
dms, t.c.l., works lb .50 - —
tanks, works lb .47 - —
Cypress oil, bots lb 5.50 - —

D

2,4-D, tech, bgs, dms., c.i., works, frt, equald lb. .40 - —
bgs, dms, l.c.l, same basis lb. .45 - .49
2,4-D, butyl ester, dms, c.i., works, lb. .43 - —
dms., l.c.l., same basis lb. .48 - .52
tanks, same basis lb. .42 - —
2,4-D, isopropyl ester, dms., c.i., works lb. .43 - —
dms., l.c.l., works lb. .48 - .52
tanks, works lb. .42 - —
Dandelion root, bls lb. .35 - .40
DDD, tech, flake, grd., fib, dms., c.i., works lb. .45 - .47
fib, dms, l.c.l., works lb. .46 - .48
DDT, flake or lump, bgs., c.i., dlvd lb. .17 - —
bgs, smaller lots, same basis, lb. .19 - —
fib, dms., c.i., same basis lb. .18 - —
fib, dms, smaller lots, same basis lb. .21 - —
Powdered DDT 1c per pound higher.
DDVP (see Dimethyl dichlorovinyl phosphate)
l-Decanol, tech, dms, c.i., dlvd E, lb. .41½- —
dms., l.c.l., dlvd, E lb. .43½- .44½
tanks, dlvd E lb. .37½- —
Decyl alcohol, mixed isomers, dms., c.i., dlvd lb. .20½- —
dms., l.c.l., dlvd lb. .22 - —
tanks, dlvd, lb. .18 - —
Perfume grade, bots. lb 1.00 2.00
Decyl alcohol, normal (see l-Decanol)
Deertongue leaves, bls. lb. .50 .60
Defluorinated phosphate, feed grade 14% P, paper bgs., c.i., t.i., Tupelo, Miss ton 52.00 - —
18% P, paper bgs, c.i., t.i., Muscatine, Iowa ton 71.25 - —
paper bgs, c.i., Plant City, Fla. ton 61.25 - —
paper bgs, c.i., t.i., Port Arthur, Tex ton 65.75 - —
paper bgs., c.i., works, Wales, Tenn ton 66.00 - —
19% P, paper bgs., c.i., t.i., works, Houston, Tex ton 69.35 - —
Prices of defluorinated phosphate in bulk $3 per ton less than bg. c.i. prices
Degras, common (15-17% free fatty acid), 400-lb dms lb. .12 - 14
Neutral (over 2% free fatty acid), 400-lb dms lb. 13 - —
Denatured alcohol, ethyl CD-18, CD-19, dms., c.i., dlvd. E, of Rockies gal. .69½- —
dms., t.c.l. same basis gal. 74½ 80½
tanks dlvd, same basis gal 53½ —
Tankcar sales require written authorization by Alcohol and Tobacco Tax Division.
Denatured alcohol, ethyl, proprietary solvent, dms., c.i., dlvd E of Rockies gal. 72 —
dms, t.c.l. same basis gal 77 83
tanks, same basis gal 56
Tankcar sales require written authorization by Alcohol and Tobacco Tax Division.
Denatured alcohol, ethyl, SD1 dms., dlvd E of Rockies gal. 70½ —
dms, t.c.l. same basis gal. 75½ 81½
tanks same basis gal. 54½ —
Denatured alcohol, ethyl, SD3A, dms., c.i., dlvd, E of Rockies, gal. 70½ —
dms., t.c.l. same basis gal. 75½ 81½
tanks same basis gal. 54½ —
Denatured alcohol, ethyl, SD23H, dms., c.i., dlvd, E of Rockies gal. .71 - —
dms., t.c.l. same basis gal. 76 .82
tanks same basis gal. .55 —
SD29, dms., c.i., dlvd, E, of Rockies gal. .69½- —
dms, t.c.l., same basis gal. .74½ .80½
tanks, same basis gal. .53½- —
SD30, dms, c.i, dlvd, E, of Rockies gal. .68 —
dms., t.c.l., same basis gal. 73 .79
tanks, same basis gal. .52 —
SD35A, dms., c.i., dlvd, E, of Rockies gal. .71 —
dms., t.c.l., same basis gal. .76 .82
tanks, same basis gal. .55 —
SD-40, dms., dlvd, E, of Rockies, gal. .70½- —
dms, t.c.l., same basis gal. 75½ .81½
tanks, same basis gal. .54½ —
For anhyd. alcohol on above formulas prices are 7c per gal higher
West coast dlvd prices are the same as eastern prices, except in Idaho, Montana, Oregon, and Washington where a 5c differential on tankcars is maintained.
d-Desoxyephedrine hydrochloride, dms lb. 15.00 - 17.00
dl-Desoxyephedrine hydrochloride, dms lb 6.40 —
Dextrin, corn, gum, paper bgs., c.l., works 100 lbs. 9.19 - —
paper bgs., l.c.l. 100 lbs. 9.34 - —
canary dark, paper bgs., c.l. 100 lbs. 9.03 - —
paper bgs., l.c.l. 100 lbs. 9.18 - —
indust grade 6-16 mesh, canary light, paper bgs., c.l. 100 lbs. 8.93 - —
paper bgs., l.c.l. 100 lbs. 9.08 - —
white, paper bgs., c.l. 100 lbs. 8.77 - —
paper bgs., l.c.l. 100 lbs. 8.92 - —
Corn dextrin in cotton bgs. 15c per 100 lbs higher
Dextrose, anhyd, comL, bgs., c.l. 100 lbs. 8.65 - —
bgs., t.c.l 100 lbs 8.80 - —
Anhyd, special, aluminum foil lined fib dms., 200-lb dms 100 lbs. 14.70 - —
100-lb dms. 100 lbs. 15.20 - —
Hydrated, coml., bgs., c.l., ex whse 100 lbs. 7.45 - —
bgs, c.l., ex whse 100 lbs. 7.60 - —
USP, dms lb. .19¾ —
Diacetone alcohol, acetone-free, dms, c.i., dlvd lb. .15½ —
dms., t.c.l. dlvd. lb. .17 —
tanks dlvd lb. .13 —
Tech, dms, c.i. dlvd, lb. .15 —
dms, t.c.l., dlvd. lb. .16½- —
tanks dlvd lb. 12½ —
Diacetyl, flavor grade, bots lb. 3.30 4.30
Di-sec-amyl phenol, dms., c.i., works lb .32 —
dms., t.c.l. works lb. .33 —
tanks works lb. .29½- —
Di-tert-amyl phenol, dms., c.i., works lb. .32 —
dms., t.c.l., works lb. .33 —
tanks, works lb. .29½- —
Diallylamine, dms., c.i., dlvd. lb. .36½- —
dms., l.c.l., dlvd. lb. 1.00 - —
tanks, dlvd. lb. .96 - —
o-Dianisidine, dry, tech., fib. dms. lb. 2.00 - —
Dibenzyl sebacate, dms., c.i., frt, alld, E, of Rockies lb. .93 - —
dms., l.c.l., same basis lb. .93½- .94
tanks, same basis lb. .91 - —
Dibromobenzene, bgs., 500-lb. lots, lb. .55 - —
2,6-Di-tert-butyl-p-cresol, feed grade, c.l., t.l., dms., dlvd. lb. .65 - —
t.t.l., dms., same basis lb. .68 - —
Food grade, c.l. t.l. dms., dlvd. lb. .65 - —
dms., t.t.l., same basis lb. .68 - 1.10
Tech., dms., c.l. t.l., dlvd. lb. .57 - —
dms., l.c.l., same basis lb. .60 - —
tanks, same basis lb. .54 - —
Dibutyl fumarate, dms., c.i., t.l., dlvd, E lb. .31½- —
dms., l.c.l., t.l., dlvd E lb. .33 - —
tanks, dlvd E lb. .29 - —
Dibutyl maleate, dms, c.i., t.l., dlvd, E lb. .31½- —
dms., l.c.l., t.l., dlvd E lb. .33 - —
tanks, dlvd E lb. .29 - —
Dibutyl phthalate, dms., c.l., frt, alld, E, of Rockies lb. .29¼- —
dms., l.c.l., same basis lb. .30¾- —
tanktrucks, 1,000-1,999 gals., same basis lb. .27¼- —
tankcars, tanktrucks, 2,000 gals., same basis lb. .26¾- —
Dibutyl sebacate, CP, dms., c.l., frt, alld, E, of Rockies lb. .67½- —
dms., l.c.l., same basis lb. .68 - .68½
tanks, same basis lb. .65½- —
Dibutyl tartrate, dms., works, frt, alld lb. .65½- —
Dibutylamine, dms., c.i., dlvd lb. .55½- —
dms., l.c.l., same basis lb. .57 - —
tanks, same basis lb. .53 - —
Dicapryl phthalate, dms., c.l., frt, alld, E, of Rockies lb. .25 - —
dms., l.c.l., same basis lb. .26½- —
tanks, same basis lb. .22½- —
Dicapryl sebacate, dms., c.i., works, lb. .63 —
dms., t.c.l., works lb. .63½- .64
tanks, works lb. .61 - —
2,5-Dichloroaniline, dms., works lb. .83 - —
3,4-Dichloroaniline, tech., solid, tanks, frt alld lb. .73 - —
o-Dichlorobenzene, dms, c.i., frt, alld, E lb. .12¾- —
dms., t.c.l., same basis lb. .13¾- —
tanks, same basis lb. .11 - —
p-Dichlorobenzene, dms., c.l., f.o.b., works, frt, alld, E lb. .12 - —
dms, 2,000 lbs or more, same basis lb. .14½- —
1,4-Dichlorobutane, dms, c.i., or t.l., works lb. .33½- —
dms., t.c.l., or t.t.l., works lb. .34 - —
tanks, works lb. .32 - —
Dichlorodiphenyltrichloroethane (see DDT).
2,2-Dichloroethyl ether, dms., c.i., t.l., dlvd, E lb. .15½- —
dms., t.c.l., t.t.l., same basis lb. .17 - —
tanks same basis lb. .13 - —
Dichloroisocyanuric acid, dms., c.i., t.l, frt equald lb. .65 - —
dms, t.c.l. same basis lb. .75 - —
Dichloropentanes, dist, dms., c.i., works lb. .05 - —
dms., t.c.l., works lb. .06 - —
tanks works lb. .03 - —
Dichlorophenoxyacetic acid (see 2,4-D).
Dicyclohexylamine, dms, c.i, works, lb. .54 - —
dms., t.c.l., works lb. .55 - —
tanks works lb. .52 - —
Dicyclohexyl phthalate, gran., fib, dms, c.i, works, frt alld, lb. .47½- —
fib, dms., l.c.l., same basis lb. .49 - —
Dicyclopentadiene, dms, c.i., t.o.b., works lb. .14½- —
dms., t.c.l., same basis lb. .14¾- —
tanks same basis lb. .12 - —
Didecyl phthalate, dms, c.i., works, lb. .25½- —
dms., l.c.l, same basis lb. .27 - —
tankcars, tanktrucks, 2,000 gals, lb. .23 - —
tanktrucks, 1,000-1,999 gals, same basis lb. .23½- —
Dieldrin, dms., c.i., dlvd. lb. 1.85 - —
dms, t.c.l, dlvd lb. 1.90 - —
Diethanolamine, dms, c.i., dlvd, E, lb. .27 - —
dms., t.c.l., same basis lb. .28½- —
tanks, same basis lb. .24½- —
Diethanolamine lauryl sulfate, dms., c.i., frt alld lb. .27½- —
dms., t.t.l. frt alld. lb. .28½- —
tanks, frt alld lb. .26½- —
Diethyl barbituric acid (see Barbital).
Diethyl carbonate, dms, c.i., t.o.b. works lb. .47½- —
dms., t.c.l., same basis lb. .48½- —
tanks, same basis lb. .45 - —
Diethyl ethanolamines, dms., c.i., dlvd lb. .69½- —
dms., t.c.l., dlvd. lb. .71 - —
tanks, dlvd lb. .67 - —
Diethyl oxalate, dms, c.i., t.o.b. works lb. .42¼- —
dms., t.c.l. same basis lb. .43½- —
tanks, same basis lb. .40 - —
Diethyl phthalate, dms., c.l., dlvd, lb. .27¼- —
dms., l.c.l., dlvd lb. .28¾- —
tanktrucks, 1,000-1,999 gals, same basis lb. .24¾- —
tankcars, tanktrucks, 2,000-lb. lots, same basis lb. .24¼- —
Diethyl sulfate, dms, c.i., frt, alld, E, lb. .21 - —
dms., t.c.l., frt, alld, E lb. .22½- —
tanks, frt alld, E lb. .18½- —
Diethyl thiourea, dms, c.i., t.l., works lb. .58 - —
dms, t.c.l. same basis lb. .59 - —
Diethyl toluamide, 90-95% meta isomer, dms, c.i, t.l., works, lb. 2.30 - —
5-44 dm. lots, works lb. 2.35 - —
1-4 dm. lots, works lb. 2.40 - —
N,N-Diethyl-m-toluidine, tech., liq., tanks, frt alld lb. .83 - —
Diethylamine, dms, c.i, dlvd, E lb. .52 - —
dms, t.c.l., same basis lb. .53½- —
tanks same basis lb. .49½- —
N,N-Diethylaniline, dms., c.i., frt, alld lb. .57 - —
dms., t.c.l., same basis lb. .58 - —
tanks, same basis lb. .55 - —
Diethylhexene, 380 lb dms., c.i., t.l., frt alld., Zone 1 lb. .17½- —
f.o.b. Zone 2 lb. .18½- —
380-lb. dms., t.c.l., c.l., f.o.b. Zone 1 lb. .18½- —
f.o.b. warehouse points, Zone 2 lb. .20½- —
tankcars, Zone 1 lb. .15 - —
Zone 2 lb. .16 - —
Zone 1 is East of the Rockies. Zone 2, West of the Rockies
Di-2-ethylhexyl adipate (see Di-octyl adipate).
Di-2-ethylhexyl phthalate (see Di-octyl phthalate).
Diethylene glycol, dms, c.i., dlvd E, lb. .17¾- —
dms., t.c.l., same basis lb. .19¼- —
tanks, same basis lb. .15¼- —
Diethylene glycol diethyl ether, dms., c.l., works lb. .58 - —
dms., l.c.l., works lb. .55¾- —
Diethylene glycol monobutyl ether, c.l., dms., frt, alld, E lb. .30¾- —
dms., l.c.l., frt, alld, E lb. .32¼- —
tanks, frt, alld, E lb. .28¼- —
Diethylene glycol monobutyl ether acetate, dms., c.l., works lb. .30¾- —
dms., l.c.l., works lb. .31½- —
tanks, works lb. .28¾- —
Diethylene glycol monoethyl ether, dms., c.l., dlvd, E lb. .22½- —
dms., l.c.l., dlvd, E lb. .24 - —
tanks, dlvd E lb. .20 - —
Diethylene glycol monoethyl ether acetate, dms., c.l., works, lb. .27¼- —
dms, t.c.l., works lb. .28 - —
tanks, works lb. .25¼- —
Diethylene glycol monomethyl ether, dms., c.l., dlvd, E lb. .21 - —
dms., l.c.l., dlvd, E lb. .22½- —
tanks, dlvd E lb. .18½- —
Diethylenetriamine, dms., c.l., dlvd, E lb. .44 - —
dms, t.c.l., dlvd, E lb. .45½- —
tanks, dlvd, E lb. 41½- —
Diethylstilbesterol, USP, bots, 10-kilo lots kilo 100.00 - 147.50
bots, 1-kilo lot kilo 110.00 - 152.50
Digitalis leaves, USP, dom., dms lb 1.25 —
Digitoxin, USP, bots gram 3.75 - 4.20
Diglycol laurate, dms., ton lots lb. .32½- —
Diglycol stearate, dms., t.l lb. .26 —
Diglycolic acid, bgs, c.i., t.l., works, lb. .15½- —
bgs, t.c.l., works lb. .16 —
Dihexyl sebacate, dms, c.i., works, lb. .66 —
dms., t.c.l., works lb. .67 - —
tanks, works lb. .64 - —
Dihydrazine sulfate, dms., works lb. 1.10 - 1.25
Dihydrostreptomycin sulfate, bulk, gram .028 - .03
1,2-Dihydroxy anthraquinone, dms., works lb 3.45 - —
2,2-Dihydroxy-5-5-dichloro-diphenyl methane, pure, dms lb. 2.55 - —
Tech., dms., 20,000 lbs or more lb 1.11 - —
dms, 1,050 lbs to 20,000 lbs, lb 1.13 - —
dms, 150 lbs to 1,050 lbs lb 1.15 - —
Di-isobutyl ketone, dms, c.i., dlvd, lb. .17 —
dms, t.c.l, dlvd, lb. .18½- —
tanks dlvd lb. .14½- —
Di-isobutyl phthalate, dms., c.i., dlvd, E lb. .28 - —
dms., l.c.l., same basis lb. .29½- —
tanks, same basis lb. .25½- —
Di-isobutylene, dms, c.i., dlvd, E lb. .10 - —
dms, l.c.l., dlvd, E lb. .11½- —
tanks dlvd, E lb. .08 - —
Di-isodecyl phthalate, dms., c.l., frt, alld, E, of Rockies lb. .25½- —
dms., l.c.l., same basis lb. .27 - —
tanktrucks, 1,000-1,999 gals., same basis lb. .23½- —
tanktrucks, 2,000 gals., same basis lb. .23 - —
Di-iso-octyl phthalate, dms., c.i., frt, alld, E, of Rockies lb. .25 - —
dms., l.c.l., same basis lb. .26½- —
tanktrucks, 1,000-1,999 gals, same basis lb. .23 - —
tankcars, tanktrucks, 2,000 gals., same basis lb. .22½- —
Di-isopropanolamine, dms., c.i., dlvd, lb. .23¼- —
dms., t.c.l., same basis lb. .24¾- —
tanks, same basis lb. .20¾- —
Di-isopropylamine, dms., c.i., dlvd, E, of Rockies lb. .50½- —
dms., t.c.l., same basis lb. .52 - —
tanks, same basis lb. 48 - —
Dillweed oil, dom., bots., dms lb. 4.00 - —
Dimethyl anthranilate, cns. lb 4.15 - —
Dimethyl dichlorovinyl phosphate, 55-gal dms, dlvd lb. 3.50 - —
Dimethyl ethanolamine, anhyd., dms., c.i., dlvd E lb. .78 - —
dms., l.c.l., dlvd, E lb. .79½- —
tanks, dlvd E lb. .75½- —
Dimethyl ethanolamine, 70% dms., c.i., dlvd., 100% basis, contained amines lb. .78 - —
dms., t.c.l., dlvd, 100% basis, lb. .79½- —
tanks, dlvd., 100% basis lb. .75½- —
Dimethyl hydroquinone, dms. lb. 1.90 2.20
Dimethyl phthalate, dms., c.i., works lb. .26¾- —
dms., l.c.l., works lb. .27¼- —
tanktrucks, 1,000-1,999 gals., same basis lb. .24¾- —
tankcars, tanktrucks, 2,000 gals., same basis lb. .24¼- —
Dimethyl sebacate, dms., c.l., frt, ald, E, of Rockies lb. 1.30 - —
dms., l.c.l., same basis lb. 1.30½- 1.31
tanks, same basis lb. 1.28 - —
Dimethyl sulfate, ret, dms., c.i., works lb. .17½- —
ret, dms., t.c.l., works lb. .18½- —
tanks, works lb. .16½- —
Dimethyl sulfide, dms., c.i., works, lb. .17½- —
dms., l.c.l., works lb. .18½- .19¼
tanks, works lb. .15 - —
Dimethyl sulfoxide, dms., c.l., f.o.b. works lb. .35 - —
dms., l.c.l., same basis lb. .37 - .38
tanks, same basis lb. .33 - —
Dimethylamine, 25% soln., dms., c.i., frt, equald, 100% basis lb. .38 - —
dms., l.c.l., frt, equald, 100% basis lb. .38½- —
tanks, frt, equald, 100% basis lb. .28 - —
40% soln., dms., c.i., frt, equald., 100% basis lb. .35 - —
dms., l.c.l., frt, equald, 100% basis lb. .35½- —
tanks, frt, equald., 100% basis lb. .28 - —
N,N-Dimethylaniline, dms., c.i., frt, alld lb. .28 - —
dms., t.c.l., same basis lb. .29 - —
tanks, same basis lb. .26 - —
N,N-Dimethylformamide, dms., c.i., t.l., works lb. .32½- —
dms., t.c.l., works lb. .33 - .34
tanks, works lb. .30 - —
2,4-Dinitroaniline, dms., frt, alld lb. .75 - —
Dinitroaniline orange toner, CP, bbls., dlvd E, of Rockies, lb. 1.61 - —
Dinitroaniline orange toner prices 1c. higher W of Rockies.
m-Dinitrobenzene, 89°C., dms lb. .26 —
2,4-Dinitrochlorobenzene, crystallizing at 46½°C., dms., c.i., frt, alld E lb. .17¼- —
dms., t.c.l., frt, alld E lb. .17¾- —
tanks frt alld E lb. .17 - —
2,4-Dinitrophenol, bbls. lb. .41 - —
2,4-Dinitrotoluene, oil, dms. lb. .11 - —
Refd, 63°C, dms lb. .23 - —
Dioctyl adipate, dms., c.l., frt, alld, E, of Rockies lb. .37½- —
dms., l.c.l., same basis lb. .39 - —
tanks, same basis lb. .35 - —
Dioctyl phthalate, dms., c.i., frt, alld, E, of Rockies lb. .25 - —
dms., l.c.l., same basis lb. .26½- —
tanktrucks, 1,000-1,999 gals., same basis lb. .23 - —
tankcars, tanktrucks, 2,000 gals., same basis lb. .22½- —



CYANAMID "SPLITS OFF" THE DIFFICULTIES. Cyanamid Fine Chemicals Department has become an increasingly important element in the marketing plans of pharmaceutical manufacturers. Assurance of uniformity and top quality in materials helps protect against the possibility of variations in properties and potency, or instability in the final formulation. Our clients appreciate and look for the extra security which comes from Cyanamid reliability... just as they frequently seek the help we can give in any phase of production, through our complete custom synthesis service. Vitamins, sulfonamides, antibiotics, non-inhibitory intrinsic factor concentrate, other bulk pharmaceuticals and cosmetic chemicals. Complete custom synthesis service.

CYANAMID | AMERICAN CYANAMID COMPANY · FINE CHEMICALS DEPARTMENT/Pearl River, New York.

Dioctyl sebacate dms., c.l., frt. alld. E. of Rockies lb. .59 - —
dms., l.c.l. same basis lb. .59½ - .60
tanks, same basis lb. .57 - —
1,4-Dioxane, dms., c.l., frt. alld. E. lb. .31½ - —
dms., l.c.l., frt. alld. E lb. .33 - —
tanks, frt alld. E lb. .29 - —
Prices in the west are 2c per lb higher.
Dipentaerythritol, bgs., c.l., t.l., dlvd. E lb. .34 - —
bgs., l.c.l., t.l., dlvd E lb. .35 - —
Dipentene, dest-dist., dms., c.l., works gal. .58 - —
dms., l.c.l. works lb. .62 - —
dms., l.c.l. ex whse. gal. .78 - —
tankcars, works gal. .41 - —
Dipentene, steam dist., dms., c.l., works South gal. .72 - —
dms., l.c.l., dlvd. New York gal. .91 - —
tanks, works, South lb. .55 - —
Dip oil (see Tar acid oil).
Diphenolic acid, 1,000-lb or more, bgs., works lb. .75 - —
Diphenolic polyether acids, 1,000-lb. or more, bgs., works lb. 1.00 - —
Diphenyl, bgs., c.l., t.l., works lb. .16¾ - —
bgs., l.c.l., works lb. .18½ - —
tanks, works lb. .15¾ - —
Diphenyl oxide perfume grade, cns. lb. .58 - .70
Diphenyl phthalate, dms., c.l., works. lb. .51 - —
dms., l.c.l., works lb. .53 - —

Diphenylamine, refd., flake, bgs., c.l., works, frt. equald lb. .23 —
bgs., l.c.l., same basis lb. .34 —
Refd., fused, tanks, same basis lb. .20 - —
Refd., diphenylamine in dms., ½c. per lb higher
Diphenylguanadine, bgs., dms., ton lots, frt. alld. lb. .51 - —
bgs., smaller lots, frt. alld lb. .52 - —
Diphenylhydantoin-sodium, USP, dms lb. 5.00 - 5.60
Dipropylene glycol, dms., c.l., frt. alld lb. .17 - —
dms., l.c.l., frt. alld. lb. .18½ - —
tanks, frt alld. lb. .14¼ - —
Dipropylene glycol prices 1c. higher in West.
Dipropylene glycol methyl ether, dms., c.l., dlvd. E lb. .20 —
dms., l.c.l., same basis lb. .21½ - —
tanks, same basis lb. .18½ - —
Dithiodibenzoic acid, dms., 1,000-lb. lots, works lb. 1.80 - —
Di-o-tolylguanidine, dms., ton lots, frt. alld lb. .71 - —
dms., smaller lots, frt. alld lb. .72 - —
Di-o-tolylthiourea, tech. solid, dms., c.l., t.l., frt. alld lb. .55 - —
Ditridecyl phthalate, dms., c.l., frt. alld. E. of Rockies lb. .29¼ - —
dms., l.c.l., same basis lb. .30¾ - —
tanktrucks, 1,000-1,999 gals., same basis lb. .27¼ - —
tanktrucks, 2,000 gals., same basis lb. .26¾ - —

Divinylbenzene, 20-25%, dms., c.l., works, frt. equald lb. .20 - —
dms., l.c.l., same basis lb. .21 - —
tanks, same basis lb. .19 - —
50-60%, dms., c.l., works, 100% basis lb. 1.00 - —
dms., l.c.l., works, 100% basis lb. 1.05 - —
tanks, same basis lb. .90 - —
Dodecenyl succinic anhydride, dms., c.l., t.l., dlvd. E lb. .50 - —
dms, l.c.l., l.t.l., same basis lb. .52 - —
Dodecylbenzene, dms., c.l., f.o.b. works, frt equald lb. .134 - —
dms., l.c.l., same basis lb. .144 - —
tanks, same basis lb. .11 - —
Dodecylphenol c.l., frt. alld. lb. .22½ - —
dms., l.c.l., same basis lb. .23½ - —
tanks, same basis lb. .20 - —
Dodecylphenol prices on shipments to Western States are 2c. per pound higher.

Dyes, coaltar, certified colors for food, drugs and cosmetics, 500-lb. and 25-lb.lots, frt. prepaid or alld.
Blue, FD&C, No. 1 lb.15.65 -16.45
No. 2 lb.15.65 -16.45
Green, FD&C, No. 1 lb.15.65 -16.45
No. 2 lb.19.60 -20.40
No. 3 lb.31.30 -32.10
Red, FD&C, No. 2 lb. 3.60 - 4.40
No. 3 lb.19.60 -20.40
No. 4 lb. 6.00 - 6.80
Yellow, FD&C, No. 5 lb. 3.75 - 4.55
No. 6 lb. 3.65 - 4.45
Dyes, coaltar, certified colors for drugs and cosmetics, 200-lb. and 1-lb. lots, dlvd.:
Black, D&C, No. 1 lb.12.40 -13.00
Brown, D&C, No. 1 lb.16.35 -16.95
Green, D&C, No. 5 lb.17.00 -17.60
No. 6 lb.17.40 -18.00
No. 7 lb.14.35 -14.95

Dyes, coaltar, certified colors for drugs and cosmetics, 200-lb. and 1-lb. lots, dlvd.:
Orange, D&C, No. 3 lb.10.50 -10.80
No. 4 lb.19.60 -20.05
No. 5 lb. 3.80 - 4.25
Red, D&C, No. 17 lb.12.55 -13.15
No. 18 lb.23.55 -24.15
No. 19 lb.15.00 -15.45
No. 21 lb. 3.90 - 4.35
No. 22 lb.10.50 -10.95
No. 28 lb.27.90 -28.50
No. 33 lb.17.00 -17.45
Violet, D&C, No. 2 lb.15.65 -16.10
Yellow, D&C, No. 7 lb.10.50 -10.95
No. 8 lb.10.50 -10.95
No. 10 lb.15.10 -15.70
No. 11 lb.14.80 -15.40

Dyes, coaltar, certified colors for drugs and cosmetics, external use, 500-lb. and 1-lb. lots, dlvd.:
Blue, Ext., D&C, No. 1 lb.15.65 -16.10
Green, Ext. D&C, No. 1 lb.15.65 -16.10
Red, Ext., D&C, No. 1 lb.13.05 -13.50
Yellow, Ext. D&C, No. 1 lb.10.50 -10.95

Dyes, coaltar for general use in cloth dyeing (numbers are those of the Color Index scale or prototype), contract dlvd. No.
11110 Brilliant scarlet BN lb. 1.79 - —
13390 Fast blue SR lb. 1.57 - —
14025 Yellow 2G lb. 1.32 - —
14030 Orange R extra, conc. lb. 1.64 - —
14645 Chrome black T lb. .77 - —
14720 Rubine XX, conc lb. 1.76 - —
15510 Orange Y, extra conc. lb. .83 - —
15575 Orange RR lb. 1.10 - —
15620 Fast Red A, conc. lb. 1.77 - —
15705 Chrome blue black R, conc. lb. 1.12 - —
16150 Scarlet 2RL lb. 1.23 - —
16255 Brilliant scarlet 3RN, conc. lb. 1.34 - —
16230 Fast light, orange 2G lb. 1.39 - —
17590 Brown PG lb. 3.00 - —
18050 Phloxine 2G lb. 1.16 - —
18055 Fuchsine 6B lb. 1.55 - —
18965 Fast yellow 2G lb. 2.44 - —
19140 Yellow XX lb. 2.48 - —
19555 Yellow NN, conc. lb. 3.67 - —
20170 Brown Y lb. 1.53 - —
20470 Blue black, extra, conc lb. 1.44 - —
21010 Brown, RX, conc lb. 1.42 - —
22240 Scarlet B lb. 2.81 - —
22310 Red FC lb. 1.57 - —
22311 Brown MCW lb. 1.59 - —
22610 Blue 2B, extra conc lb. 1.62 - —
23500 Red 4BX, conc. lb. 1.80 - —
24410 Sky blue FF, extra, conc. lb. 1.95 - —
24895 Brilliant yellow, conc. lb. 3.27 - —
26360 Navy blue 3R, conc. lb. 1.84 - —
26685 Black F, conc. lb. 2.30 - —
26900 Milling Red 3R, conc lb. 2.24 - —
27075 Neutral black 2B, conc lb. 2.75 - —
27720 Gray L lb. 2.29 - —
29185 Fast scarlet 4BNC lb. 2.23 - —
30015 Diazo black VJ conc. lb. 2.48 - —
30045 Yellow brown K, extra lb. 1.45 - —
30235 Black EB, 200% lb. 1.33 - —
30295 Green BY conc. lb. 1.07 - —
35650 Brown B lb. 2.89 - —
37565 Naphthol SWF lb. 1.85 - —
40000 Yellow 2G lb. 1.44 - —
41000 Yellow OX lb. 2.45 - —
42000 Green V, crystals lb. 2.73 - —
42040 Brilliant green G crystals lb. 3.62 - —
42640 Violet 4BXN lb. 2.43 - —
42090 Blue EG lb. 1.85 - —
42100 Milling green 6B, conc. lb. 4.78 - —
43830 Brilliant blue, BBG lb. 2.44 - —
44045 Blue B, extra conc. lb. 3.61 - —
45170 Red BX lb. 4.76 - —
50415 Nigrosine SSJ lb. 1.03 - —
52015 Blue GXX lb. 2.54 - —
58005 Alizarin red SC lb. 3.64 - —
59700 Golden orange GFD, single paste lb. 2.70 - —
59710 Flaming orange 6RD double powder lb. 4.90 - —
59800 Dark blue BO, single paste. lb. 2.28 - —
59825 Jade green NC supra, double paste lb. 1.75 - —
61570 Alizarin green CG, extra lb. 4.00 - —
63010 Alizarin blue SAPG lb. 3.90 - —
63615 Alizarin blue black B lb. 3.26 - —
69825 Blue BLFD double paste lb. 2.76 - —
70800 Brown BR single paste lb. 2.03 - —

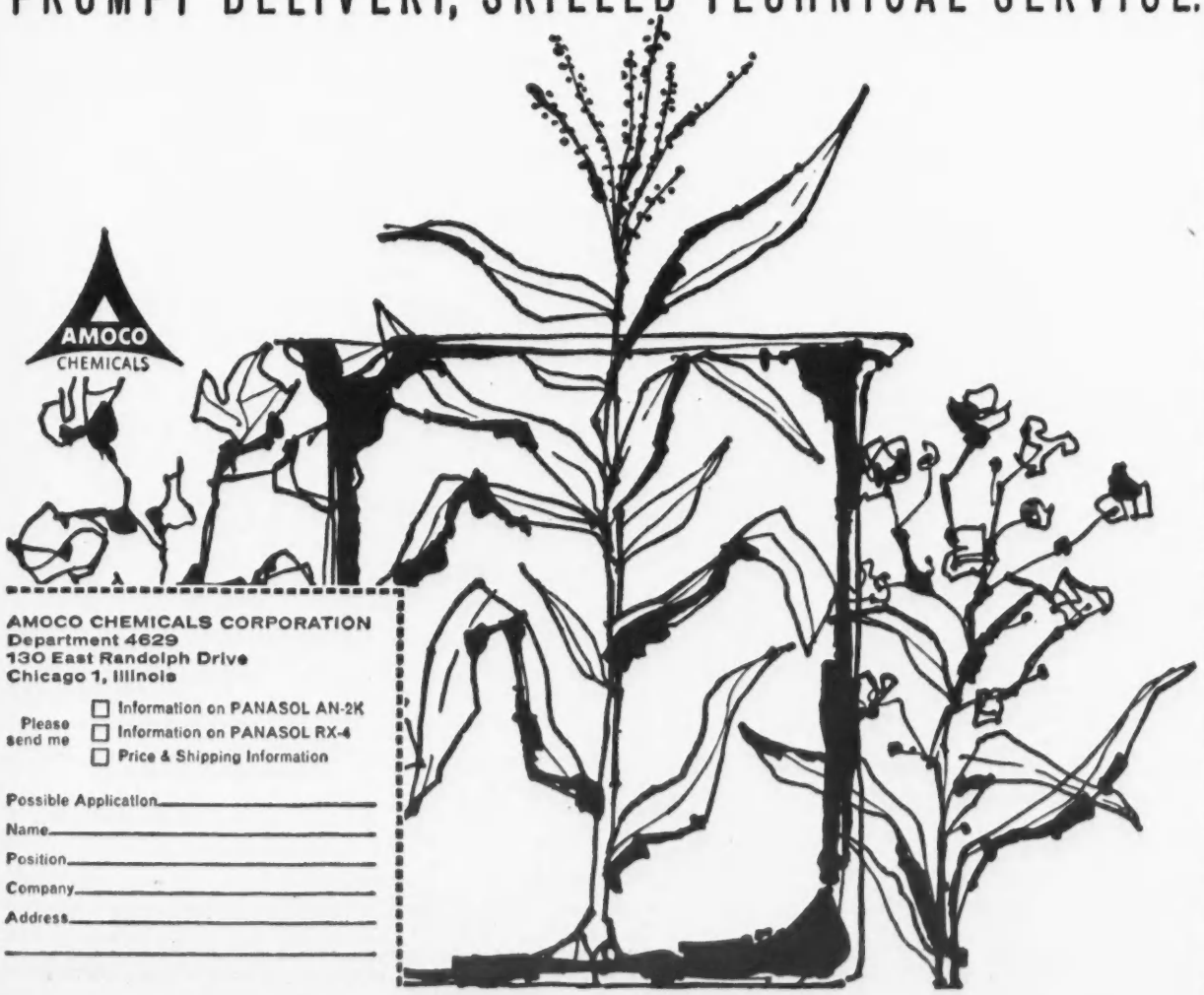
Dyes, coaltar, oil-soluble, 100 lb drums, dlvd. No.
12140 Oil scarlet BL lb. 1.87 - —
12055 Oil orange 7078 V lb. 1.38 - —
26120 Oil red N 1700 lb. 1.94 - —
42535B Methyl violet base lb. 1.88 - —
44045B Victoria blue base lb. 4.06 - —
50415B Oil black 8603 lb. .80 - —
61565 Alizarin cyanine green base. lb. 6.13 - —

Dyes, coaltar, spirit soluble, 100 lb. dms., dlvd., Black RB lb. 3.89 - —
Spirit brown GN lb. 5.30 - —
Spirit orange R conc. lb. 5.87 - —
Spirit red B conc. lb. 6.41 - —
Pr. 517 Spirit yellow 2R conc lb. 4.62 - —
Pr. 554 Spirit blue THN lb. 5.06 - —

E

Echinacea root, bls. lb. 1.25 - —
Elm bark, grinding, bls. lb. .30 - .32
Powd., bbls., bxs. lb. .60 - —
Select, bundles lb. .75 - —
Emetine hydrochloride, USP, bots oz.48.40 - —
Endrin, tech., dms., 100-lbs. or more, 100% basis, dlvd lb. 2.77 - —
Eosin red toner, bbls., works lb. 1.93 - —
Ephedrine, syn., USP, anhyd., bots. 100-oz.lots oz. .98 - 1.00
hydrous, bots., 100-oz. lots, oz. .92 - —
Ephedrine hydrochloride, NF, dms., 100-oz., f.o.b. works oz. .75 - —
Ephedrine sulfate, USP, cryst., dms., 100-oz. f.o.b. works oz. .73 - —
USP, powd., dms., 100-oz., same basis oz. .73 - —
Epichlorohydrin, dms., c.l., dlvd lb. .29½ - —
dms., l.c.l., dlvd. lb. .31 - —
tanks, dlvd. lb. .27 - —
Epinephrine base, syn., USP, bots., 100 gram lots gram. .58 - —
Epsom salt (see Magnesium sulfate).
Erigeron oil, cns. lb.11.00 - —
Ergot, NF, dms., tin-lined lb. 2.00 - 2.50
Eserine salicylate, bots. oz.34.50 -40.00
Eserine sulfate, bots. oz.26.00 - —
Ester gum, gum-rosin type, dms., c.l., dlvd., Ill., Md., Ky., E. States, Minneapolis, N. C., Ohio, St. Louis, St. Paul, Va., W. Va lb. .18½ - —
Ester gum, wood-rosin type, dms., c.l. same basis lb. .18½ - —
Ether (see specific product)
Ethyl acetate, nat., ferment, 85-88%, dms., c.l. dlvd lb. .15 - —
dms., l.c.l., dlvd. lb. .16½ - —
tanks, dlvd lb. .12½ - —
95-98%, dms., c.l., dlvd. lb. .15¼ - —
dms., l.c.l., dlvd. lb. .16¾ - —
tanks, dlvd lb. .12¾ - —
99%, dms., c.l., dlvd lb. .15½ - —
dms., l.c.l., dlvd lb. .17 - —
tanks, dlvd. lb. .13 - —
Syn., 85-88%, dms., c.l., dlvd lb. .15 - —
dms., l.c.l., dlvd. lb. .16½ - —
tanks, dlvd. lb. .12½ - —
95-98%, dms., c.l., dlvd lb. .15¼ - —
dms., l.c.l., dlvd lb. .16¾ - —
tanks, dlvd lb. .12¾ - —
99% dms., c.l., dlvd lb. .15½ - —
dms., l.c.l., dlvd. lb. .17 - —
tanks, dlvd. lb. .13 - —

AMOCO PANASOL
AROMATIC SOLVENTS
FOR INSECTICIDE APPLICATIONS
FOR EXCELLENT INSECTICIDE SOLUBILITY AND LOW PHYTOTOXICITY, CONSIDER PANASOL AN-2K OR RX-4. PROMPT DELIVERY, SKILLED TECHNICAL SERVICE.



AMOCO CHEMICALS CORPORATION
Department 4629
130 East Randolph Drive
Chicago 1, Illinois

Please send me
☐ Information on PANASOL AN-2K
☐ Information on PANASOL RX-4
☐ Price & Shipping Information

Possible Application_____
Name_____
Position_____
Company_____
Address_____

Ethyl acetoacetate, dms., c.l., dlvd.	lb.	58¼-	—
dms., t.c.l., dlvd.	lb.	.60 -	—
tanks, dlvd.	lb.	.56 -	—
Ethyl acrylate, dms., c.l., t.l., dlvd.	lb.	.34¾-	—
dms., t.t.l., dlvd	lb.	.35¾-	—
tanks, dlvd.	lb.	.32¼-	—
Ethyl alcohol, 190 pf., USP, tax paid dms., c.l., dlvd. E. of Rockies	gal.	20.63	—
dms., t.c.l., same basis	gal.	20.73	-20.84
USP, tax-free, dms., c.l., dlvd. E. of Rockies	gal.	.68 -	—
Ethyl alcohol, 190 pf., USP, tax free, dms., t.c.l., same basis	gal.	.73 -	.79
tanks, same basis	gal.	.52 -	—
Ethyl alcohol, absolute 200 pf., tax paid, dms., dlvd. E. of Rockies	gal.	21.75	—
dms., t.c.l., same basis	gal.	21.85	-21.96
tanks, same basis	gal.	21.59	—
Ethyl alcohol, denatured (see Denatured alcohol, ethyl).			
Ethyl aminobenzoate, USP (see Benzocaine).			
Ethyl amyl ketone, dms., c.l., dlvd.	lb.	.20	—
dms., t.c.l., same basis	lb.	.21½-	—
tanks, same basis	lb.	17½-	—
Ethyl benzoate, bots.	lb.	.75	1.00
Ethyl bromide, tech., 98%, dms., c.l., frt. alld. E	lb.	43 -	—
dms., t.c.l., frt. alld. E	lb.	45 -	—
tanks, frt. alld. E	lb.	.40 -	—
2-Ethyl butyl alcohol, dms., c.l., works	lb.	.30	—
dms., t.c.l., works	lb.	.30¾-	—
tanks, works	lb.	.28 -	—
Ethyl butyl ketone, dms., c.l., t.l., works	lb.	.36 -	—
dms., t.c.l., t.t.l., works	lb.	.36¾-	—
tanks, works	lb.	.34 -	—
Ethyl butyrate, dms., works	lb.	.85	1.00
Ethyl carbamate (see Urethane).			
Ethyl cellulose, vis. 7 cps., bgs., 5,000-lb lots or more, frt. alld. E	lb.	.73 -	—
bgs., smaller lots, frt. alld. E	lb.	.75 -	—
vis. 10, 20, 50, 100, 150 cps., bgs., 5,000-lb. lots or more, frt. alld. E	lb.	.68 -	—
vis., 10,20,50,100,150 cps., bgs. smaller lots, frt. alld. E	lb.	.70 -	—
Ethyl chloride, tech., cyls., works.	lb.	.20	.22
dms., works	lb.	.18	.20
tanks, works	lb.	.10	—
Ethyl cinnamate, cns	lb.	3.35	- 3.50
Ethyl ethanolamines, mixed, dms., c.l., dlvd. E	lb.	.43½-	—
dms., t.c.l., dlvd. E	lb.	.44½-	—
tanks, dlvd. E	lb.	.41½-	—
Ethyl ether, absolute, ACS, dms	lb.	.37 -	—
Anesthesia, USP, dealers, 1-lb. cns	lb	1.01 -	—
½-lb. cns	lb	1.09 -	—
¼-lb. cns.	lb.	1.21 -	—
Indust., dms., c.l., dlvd.	lb.	.13½-	—
dms., t.c.l., dlvd. E	lb.	.15 -	—
tanks, dlvd. E	lb.	.11 -	—
2-Ethyl hexoic acid, dms., c.l., t.l., dlvd. E	lb.	.37 -	—
dms., t.c.l., t.t.l., dlvd. E	lb.	.38½-	—
tanks, dlvd. E.	lb.	.34½-	—
2-Ethyl hexoic acid 1c. higher W. of Rockies.			
2-Ethylhexyl acrylate, dms., c.l., t.l., straight or mixed, frt. alld. E	lb.	.39½-	—
dms., t.t.l., same basis	lb.	.40½-	—
tanks, same basis	lb.	.37 -	—
2-Ethylhexyl alcohol, dms., c.l., dlvd. E	lb.	.20½-	—
dms., t.c.l., dlvd. E	lb.	.22 -	—
tanks, dlvd. E	lb.	.18 -	—
Ethyl iodide, chys., works	lb.	3.30 -	—
Ethyl methacrylate, dms., c.l., frt. equald	lb.	.52 -	—
dms., t.t.l., frt. equald	lb.	.52½-	—
tanks, frt. equald	lb.	.50 -	—
Ethyl morphine hydrochloride, USP, bots	oz.	11.85 -	—
Ethyl oenanthate, dms	lb.	1.03 -	1.30
Ethyl oxalate (see Diethyl oxalate).			
Ethyl silicate, dist. (see Tetraethyl orthosilicate).			
Ethyl silicate 40% available SiO_2, dms., c.l., dlvd. E	lb.	.49 -	—
dms., t.c.l., dlvd. E	lb.	.50½-	—
tanks, dlvd. E	lb.	.47 -	—
N-Ethyl-a-naphthylamine, dms., works.	lb.	1.04 -	—
N-Ethyl-m-toluidine, tech., tlq., tanks frt. alld	lb.	.83 -	—
N-Ethyl-o-toluidine, bbls	lb.	.88 -	—
Ethylamine (see Mono-, Di-, or Tri-)			
N-Ethylaniline, dms., c.l., frt. alld.	lb.	.57 -	—
dms., t.c.l., frt. alld	lb.	.58 -	—
tanks, frt. alld	lb.	.55 -	—
Ethylbenzene, 99% dms., c.l., t.l., frt. equald	lb.	.14 -	—
dms., t.c.l., same basis	lb.	.16 -	—
tanks, same basis	lb.	.11¼-	—
Ethylene, contract refy gate	lb.	.0473-	.0525
Ethylene dibromide, dms., c.l., frt. equald	lb.	.30½-	—
dms., t.c.l., frt. equald	lb.	.31½-	—
tanks, frt. equald	lb.	.28½-	—
Ethylene dichloride, dms., c.l., dlvd.	lb	.11½-	—
dms., t.c.l., same basis	lb.	.13 -	—
Ethylene dichloride, tanks, same basis	lb.	.09 -	—
Ethylene dichloride prices W. of Rockies, 1c. per lb. higher			
Ethylene glycol, indust., dms., c.l., dlvd. E	lb.	.16	—
dms., t.c.l., same basis	lb.	.17½	—
tanks, same basis	lb.	.13½	—
Ethylene glycol monobutyl ether, dms, c.l., dlvd E	lb.	.22	—
dms., t.c.l., dlvd. E	lb	.23½	—
tanks, dlvd. E	lb.	.19½	—
Ethylene glycol monoethyl ether, dms, c.l., dlvd. E	lb	.21	—
dms., t.c.l., dlvd. E	lb.	.22½	—
tanks, dlvd E	lb.	.18½	—
Ethylene glycol monoethyl ether acetate, dms., c.l., dlvd. E	lb.	.19½	—
dms., t.c.l., dlvd. E	lb.	.21	—
tanks, dlvd. E	lb.	.17 -	—
Ethylene glycol monomethyl ether, dms., c.l., dlvd. E	lb	.21	—
dms., t.c.l., dlvd. E	lb.	.22½	—
tanks, dlvd E	lb.	.18½	—
Ethylene glycol monomethyl ether acetate, dms., c.l., works	lb.	.29 -	—
dms., t.c.l., works	lb.	.29¼ -	—
tanks, works	lb.	.27 -	—
Ethylene glycol monostearate, flake, 150-lb ctn	lb.	.33 -	—
Ethylene oxide, dms, c.l., dlvd E	lb.	.21½	—
dms., t.c.l., dlvd. E	lb.	.24½	—
tanks, dlvd E	lb.	.15½	—
Ethylene trichloride (see Trichloroethylene).			

Interested personal service—
always—
when you buy from Eastman

Eastman Alcohols

ethyl alcohol
95% and anhydrous

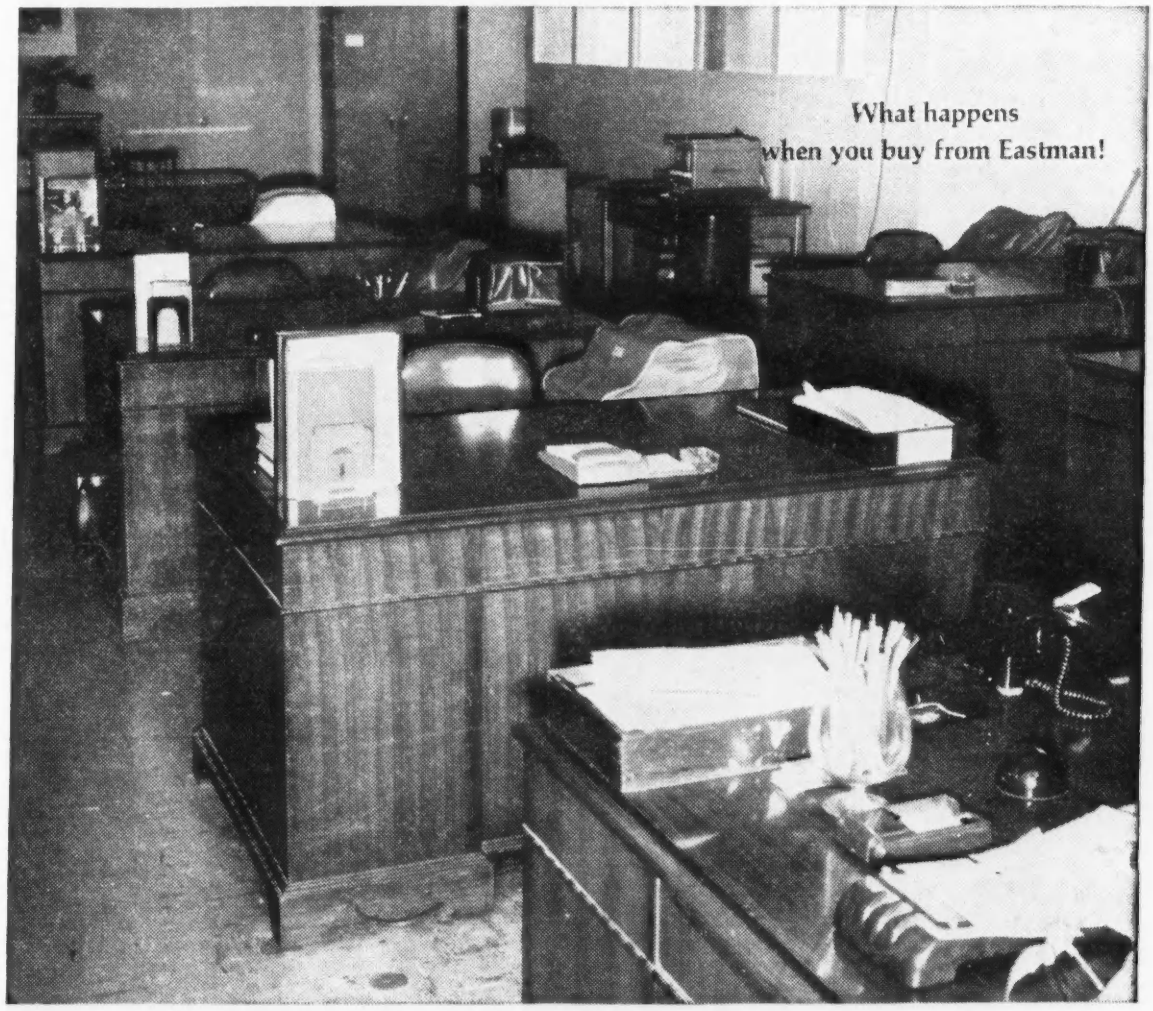
Tecsol®
proprietary
ethyl alcohol
95% and anhydrous

n-butyl alcohol

isobutyl alcohol

2-ethylhexyl alcohol

For properties and shipping information on these and other Eastman products, see **Chemical Materials Catalog,** page 225, or **Chemical Week Buyers' Guide,** page 113.



"4,500 gallons!...on Labor Day weekend?"

"The customer had reached me at home on the Labor Day weekend with a request for immediate delivery of 4,500 gallons of 2-ethylhexyl alcohol," said one of our New England representatives.

"I almost knew before asking that he was not going to define *immediate* as Tuesday or Wednesday. And he didn't disappoint me.

"'If a truck drove in right now, it would be an hour late,' he said. Then he went on about a very special and unexpected plasticizer order and how he was 'way short on the necessary 2-ethylhexyl alcohol and normally his raw material inventories were adequate and if he could get delivery right away he might be able to keep his process running, etc. So I promised to see what I could do.

"Luckily, I was able to catch our warehouse manager at home and after checking around he seemed to think he could get up a loading crew. I called the customer back to ease his mind a little...that just as soon as we could locate an available tank truck we'd be in business. That's when he told me about his faith in our service—he had already made arrangements for the tank truck.

"Within two hours we loaded and delivered. The customer confided later in the week that it was on time after all, and enabled him to meet his scheduled delivery date."

Generally, we handle orders on a more scheduled, normal-business-hours, few-days'-notice basis. But if ever you feel the need to arrange for your own tank truck, then call us to fill it up—we'll do all we can to meet your requirements, even on Labor Day weekend.

Eastman CHEMICAL PRODUCTS, INC., KINGSPORT, TENNESSEE, Subsidiary of Eastman Kodak Company

SALES OFFICES: **Eastman Chemical Products, Inc.,** Kingsport, Tennessee; Atlanta; Boston; Buffalo; Chicago; Cincinnati; Cleveland; Detroit; Greensboro, North Carolina; Houston; Kansas City, Missouri; New York City; Philadelphia; St. Louis.
West Coast: Wilson & Geo. Meyer & Company, San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

Ethylenediamine—Grapefruit Oil

Ethylenediamine, 85-88%, dms., c.l., dlvd, E., 100% basis lb. .40 - —
dms l.c.l. dlvd E. 100% basis, lb. .41½- —
tanks, dlvd, E., 100% basis lb. .38 - —
Ethylvanillin, 100-lb. fib. dms., 500-lb. 6.75 - —
less than 500-lb. lb. 7.40 - —
Eucalyptol, USP, cns., dms lb. 85 1.40
Eucalyptus oil, NF rectified, 70-75% dms lb. .45 —
NF rectified 80-85% dms lb 53 .62
USP, dms. lb. 1.90 - —
Eugenol, USP, dms. lb. 1.90 - 2.50
Euphorbia herb, bls lb. .12 .15

F

F salt paste, tech., dms., works lb 2.50 - —
Fennel oil, sweet, USP, cns. lb 2.60 - —
Fennel seed, Argentine, bgs. lb. .16 - —
French, light, bgs. lb. .16½- —
Indian, light, bgs. lb. .16½- —
Yugoslav, light, bgs. lb. .17½- —
Fenugreek seed, Moroccan, bgs. lb. .12 - —
Ferric chloride, anhyd., tech., 350-lb. dms., c.l., works 100 lbs 8.00 - —
dms., l.c.l., works 100 lbs 9.00 - —
Ferric chloride 42° Be., photo grade, dms., c.l., works 100 lbs. 7.25 - —
sewage grade, tanks, frt equald 100% basis 100 lbs 4.00 - —
USP cryst, dms, t.l., works lb. .08½- —
Ferric citrate, gran., dms. lb. .86 - —
Ferric hypophosphite, NF, 175-lb. dm lb. 4.25 - —
Ferric naphthenate, liq., 6% Fe, dms, frt. alld lb. .28¼- —
Ferric oxalate, tech., gran., 50-lb. dm., f.o.b. works E lb. 1.30 - —
Ferric oxides (see iron oxides).
Ferric phosphate, NF, soluble, gran pearls, cs lb. .72 - .78
Ferric pyrophosphate, NF VII, soluble, gran pearls, 225-lb. dm. lb. .70 - —
Ferric resinate, dms., ton lots, frt, alld lb. .45 - —
Ferric stearate, dms., c.l., frt. alld. lb. .39 - —
dms., l.c.l., frt alld lb. .40 - .44
Ferric sulfate, partly hydrated, bgs., c.l., works ton 35.25 —
bgs., l.c.l., works ton 36.25 -42.25
bulk, c.l., works ton 33.25 - —
Ferric-amonium citrate, NF, brown, gran., 100-lb. dms lb. .68 - —
NF, green, gran., 100-lb. dms., frt. equald lb. .68 - —
Ferric-ammonium oxalate, fine gran., dms lb. .27½- .29½
Ferric-potassium oxalate, fine gran., 250-lb dm., f.o.b. works lb. .32½- —
Ferric-sodium oxalate, fine gran., dms lb. .27½- .29½
Ferrous gluconate, USP, 200-lb. dm., frt. equald lb. .95 - —
Ferrous sulfate, gran., bgs., c.l., works ton 34.50 - —
bgs., l.c.l., dlvd. Metropolitan area 100 lbs. 3.35 - 4.25
bbls., c.l., works ton 40.00 - —
bulk, c.l., works ton 27.00 - —
USP, cryst., bbls., dms. lb. .09½- .10
Fir balsam, Canada, bbls. gal. 34.00 -35.00
Oregon, bbls. gal. 3.40 - 4.64
Fir oil, Canada, cns. lb. 1.70 - 1.75
Fish oil, refd., alkali, dms. lb. .1380- .1430
Kettle-bodied, dms. lb. .1530- .1580
Light-pressed, dms. lb. .1280- .1330
tanks lb. .1080- —
Fishliver oil, nat., high potency, 100,000 to 1,500,000 A units per gram, dms 1,000,000 units. .12 - —
Fishmeal, dom., menhaden, 60% protein, grd., bgs., Atlantic and Gulf coasts ton. 122.50 -125.00
Fishscrap, dom., menhaden, dried, 60% protein, grd., bgs., Atlantic and Gulf coasts. ton. 118.50 -121.00
Fleaseed (see Psyllium seed).
Folic acid, USP, nots., fib. dms., kilo lots or more gram. .25 - —
10% feed grade fib dms., 3 kilos or more kilo. 30.00 -44.00
Formaldehyde, 37% (inhibited, 12 to 15% methanol), USP, dms., c.l., dlvd. lb. .0690- —
tanks, dlvd. lb. .0430- —
37% (inhibited, 7% methanol) tanks, dlvd. lb. .0405- —
44% (1% methanol), tanks lb. .0446- —
37%, methanol-free (uninhibited), tanks, dlvd. lb. .0375- —
Formic acid, 85%, cbys., c.l., works, lb. .1570- —
cbys., l.c.l., works lb. .1620- .1720
90%, cbys., c.l., works lb. .1625- —
cbys., l.c.l., works lb. .1675- .1775
Fringetree bark, bls. lb. .68 - .70
Fumaric acid, tech., 250-lb. dms., c.l., frt. equald. lb. .22¾- —
dms., l.c.l., frt. equald. lb. .24¼- —
Fumaric acid in bags ½c. per lb. less.
Furfural, dms., c.l., works. lb. .13 - —
dms., l.c.l., works. lb. .14 - —
tanks, dvd. E. lb. .11½- —
tanks, dlvd. W. lb. .12½- —
Furfuryl alcohol, cns., works. lb. .28 - —
dms., c.l., t.l., Newark, N. J. lb. .19½- —
dms., l.c.l., t.l., Newark, N. J. lb. .20½- —
dms., c.l., t.l., Memphis, Tenn. lb. .18 - —
dms., l.c.l., t.l., Memphis, Tenn. lb. .19 - —
tanks, dlvd. E. of Denver lb. .175 - —
Fusel oil, refd. dms., c.l., dlvd lb. .18 - —
dms., l.c.l., dlvd. lb. .19½- —
tanks, dlvd. lb. .15½- —

G

G salt, bbls., frt. alld., 100% basis lb. .73 - —
Gallic acid, NF VII, bbls., 1,000-lb. lots lb. 2.00 - —
bbls., smaller lots lb. 2.02 - 2.22
Tech., bbls., 1,000-lb. lots lb. 1.78 - —
bbls., smaller tots lb. 1.80 2.00
Gamma acid, dry grd., bbls., frt. alld lb. 1.75 - —
Gammapicoline (see g-picoline).
Garlic oil, dom, bots. oz. 4.50 - 4.75
Imp. bots. oz. 4.50 5.00
Gaultheria oil (see Wintergreen oil).
Gelatin, edible 75 AOAC test, bbls., c.l., dlvd lb. .55 - —
150 AOAC test, bbls., c.l., dlvd. lb. .64 - —
200 AOAC test, bbls., c.l., dlvd. lb. .70 - —
225 AOAC test, bbls., c.l., dlvd. lb. .74 - —
275 AOAC test, bbls., c.l., dlvd. lb. .82 - —
Gelsemium root, bls. lb. .30 - .35
Gentian root, bls. lb. .24 - —
Grd., bbls., bxs lb. .30 - —
Powd. bbls. bxs. lb. .30 - —
Geraniol extra, cns. dms. lb. 1.75 2.40
Soap grade, dms lb .90 1.75
Standard, cns., dms. lb. 1.65 —
Synthetic, dms lb 1.30 —
Geranium oil, Algerian, cns. lb. 21.00 -24.00
Bourbon, cns. lb. 11.75 -14.00
Turkish (see Palmarosa oil).
Geranyl acetate, cns lb 1.90 2.70
Synthetic, dms lb 1.45 —
Ginger oil, dist., bots. lb. 12.00 -14.00
Ginger oleoresin, NF from African root, bots lb 4.25 5.00
NF, from Jamaican root, bots. lb. 7.75 - —
Ginger root, Cochin, bgs. lb. .30 - —
Jamaican, No. 3, bgs. lb. .40 - —
Nigerian, split, bgs. lb. .30 - —
Sierra Leone, bgs. lb. .35 - —
Glauber's salt (see Sodium sulfate).
Gluconic acid, tech., 50%, dms., c.l., t.l., f.o.b. works lb. .18½- —
dms., l.c.l., f.o.b. works lb. .19½- .21
tanks, f.o.b. works lb. .15½- —
Glue, bone, extracted, dry bone, 86 jellygrams, bgs., c.l., dlvd lb. .16 - —
131 jellygrams, bgs., c.l., same basis lb. .16½- —
164 jellygrams, bgs., c.l., same basis lb. .18½- —
191 jellygrams, bgs., c.l., same basis lb. .19½- —
222 jellygrams, bgs., c.l., same basis lb. .21 - —
Glue, green, 40 jellygrams, bgs., c.l., same basis lb. .16 - —
86 jellygrams, bgs., c.l., same basis lb. .16 - —
115 jellygrams, bgs., c.l., same basis lb. .16½- —
135 jellygrams, bgs., c.l., same basis lb. .17½- —
164 jellygrams, bgs., c.l., same basis lb. .18½- —
180 jellygrams, bgs., c.l., same basis lb. .19½- —
200 jellygrams, bgs., c.l., same basis lb. .20½- —
Bone glue, l.c.l., prices 2c. higher.
Glue, hide, 70-94 jellygrams, bgs., c.l., dlvd lb. .18 - —
95-149, bgs., c.l., dlvd lb. .19 - —
122-149, bgs., c.l., same basis lb. .20½- —
150-177, bgs., c.l., same basis lb. .22½- —
178-206, bgs., c.l. same basis lb. .25 - —
207-236, bgs., c.l. same basis lb. .28 - —
237-266, bgs., c.l., same basis lb. .30½- —
267-293, bgs., c.l., same basis lb. .32½- —
299-330, bgs., c.l., same basis lb. .34½- —
331-362, bgs., c.l., same basis lb. .36½- —
363-394, bgs., c.l., same basis lb. .38 - —
395-427, bgs., c.l., same basis lb. .40 - —
428-460, bgs., c.l., same basis lb. .42 - —
461-494, bgs., c.l., same basis lb. .44 - —
495-529, bgs., c.l., same basis lb. .46 - —
Hide glue, l.c.l., prices 2c. higher.
l-Glutamic acid, 99½%, fib. dms., 100-lb. lots, frt. alld lb. 1.80 - —
fib. dms., 25-lb. lots, frt. alld. lb 1.88 - —
l-Glutamine, bots., 1-9 kilo lots, kilo. 150.00 -300.00
Bots., 50-kilo lots kilo. 100.00 - —
Bots., 500-kilo lots kilo. 75.00 - —
Glycerine, dom., nat., crude, saponification 88%, tanks, dlvd, lb. .13 - .13¼
nat., crude, soapiye 80%, tanks, dlvd. lb. .12 - .12¾
nat., refd., USP, CP, 99%, dms., c.l. dlvd lb. .26¾- —
dms., l.c.l., dlvd lb. .27⅛- —
tanks, dlvd. lb. .24⅜- —
Dom., nat., refd., USP, CP, 96%, dms., c.l., dlvd lb. 25½- —
dms., l.c.l., dlvd. lb. .26¼- —
tanks, dlvd. lb. .23¾- —
nat., high gravity, dms., c.l., dlvd lb. .26¼- —
dms., l.c.l., dlvd lb. .27 - —
tanks, dlvd. lb. .24¼- —
Glycerine, dom., refd., syn., 99.5%, dms., c.l., dlvd lb. .26½- —
dms., l.c.l., dlvd lb. .27¼- —
tanks, dlvd. lb. .24¾- —
Imp., nat., crude, soaplye, 80%, c.i.f. lb. .12 - .12¼
Glycine (see Aminoacetic acid).
Glycerol (see Glycerine).
Glyceryl guaiacolate, 100-lb. fib. dm., dlvd lb. 4.00 - —
25-lb. fib. dm. dlvd. lb 4.25 - —
Glycolic acid (see Hydroxyacetic acid).
No. 2, 90-95% bgs fib dms., ex whse lb. .29 - .31
Glycolonitrile, 70%, aqueous, dms., c.l., t.l., works lb. .40 - —
dms., l.c.l., same basis lb. .42 - —
tanks, same basis lb. .39 - —
Glyoxal, 30%, dms., c.l., works lb. .20½- —
dms., l.c.l., works lb. .21¼- —
tanks, works lb. .18 - —
Goluen seal root, NF, tested bls. 2.90 3.00
Gramicidin, 1 to 5 kilos, f.o.b. wks gram. 4.25 - —
Grapefruit oil, dms. lb. 2.40 - 2.60

get all the advantages of PVAc copolymer emulsions with CELANESE CL-204

Celanese CL-204 gives you an exceptional combination of properties for formulating better water-based paints. Its outstanding capacity for binding pigments at high pigment loading levels means lower production costs. Its superior film properties make CL-204 equally suitable for interior and exterior formulations—as well as for primer sealers. • With CL-204, film integrity, toughness, tint retention, sheen uniformity, borax compatibility, flow and leveling by brush and roller are all outstanding. As is mechanical and storage stability. • For complete details on Celanese CL-204—or other Celanese emulsions—please write, outlining your specific interest, to: Celanese Chemical Company, Dept. 556-L, 522 Fifth Ave., N. Y. 36.

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Celanese CHEMICALS

Graphite, amorp., powd., bgs., fib. dms., ex whse	lb.	.06 -	.09½
Cryst., 88-90%, powd., bgs., fib. dms., ex whse	lb.	.19 -	.21½
90-92%, powd., bgs., fib. dms., ex whse	lb.	.21 -	.24½
Cryst., 95-97%, powd., bgs., fib. dms., ex whse	lb.	.29 -	.31½
Flake, No. 1, 90-95%, bgs., fib. dms., ex whse	lb.	.29 -	.31
Grease, white, choice all hog, tanks, dlvd	lb.	.07½-	—
Yellow, tanks, dlvd	lb.	.05½-	—
Grease oil, No. 1, dms., c.l., f.o.b. Chicago	lb.	.12 -	—
dms., l.c.l., same basis	lb.	.14 -	—
tankcars, same basis	lb.	.10½-	—
extra, winter, strained, dms., c.l., Chicago	lb.	.15 -	—
dms., l.c.l., same basis	lb.	.17 -	—
tankcars, same basis	lb.	.13½-	—
prime, burning, dms., c.l., same basis, Chicago	lb.	.17 -	—
dms., l.c.l., same basis	lb.	.19 -	—
tankcars, same basis	lb.	.15½-	—

Other areas ¾c. higher, except Texas and West Coast, 1¼c. higher.

GREEN PIGMENTS

Green pigment quotations are listed individually. For example, prices on Green, chrome, may be found in the C's under Chrome green

Grindelia robusta herb, bls	lb.	.40	—
Guaiacol, NF, cryst, dms, tins	lb.	2.10	2.15
liq., chys., dms	lb.	2.30	2.40
Guaiacwood oil, cns	lb.	.63	.80
Guaiacol carbonate, NF VII, dms	lb.	3.40	3.45
Guar gum, edible, bgs., c.l., f.o.b. shipt pt	lb.	.38	—
bgs., l.c.l., same basis	lb.	.40	.42
Indust., bgs., c.l., same basis	lb.	.32	—
Tech., bgs., c.l., same basis	lb.	.30	—

GUMS

Gum quotations are listed individually. For example, prices on Gum, Arabic may be found in the A's under Arabic gum.

H

H acid, dry, bbls., c.l., frt. alld., 100% basis	lb.	1.00 -	—
bbls., l.c.l., same basis	lb.	1.05 -	—
Hansa yellow 10 G, bbls., dlvd. E. of Rockies	lb.	2.45	—
Hansa G yellow, pigment, bbls., same basis	lb.	2.20 -	—
Hawthorn berries, bgs.	lb.	.18	.20
Heliotropin, 100-lb lots, dms.	lb.	2.60	3.40
Hellebore root, dom., green, bls	lb.	.70	.75
Helonias root, bls	lb.	1.50 -	—
Hemlock oil, cns.	lb.	2.55	3.00
Henbane leaves, bls	lb.	.40 -	.45
Heptachlor, dms., c.l., t.l., frt. alld., 100% basis	lb.	.96 -	—
Heptane, indust., tankcars, New Jersey and New York	gal.	.20	—
Houston, Texas	gal.	.1625-	—
Hesperidin, purif., 50 kilos, f.o.b. works	kilo.	19 70 -	—
Hesperidin methylchalcone, 50 kilos, f.o.b. works	kilo.	49 25 -	—
Hexachlorophene, dms., 1,100 lbs. or more	lb.	1.84 -	—
dms., to 1,100 lbs.	lb.	1.94 -	—
Hexalin (see Cyclohexanol)			
Hexamethylenetetramine, tech., bgs., 20,000-lb lots or more, Perth Amboy or New York City	lb.	.233 -	—
bgs., 1,000-19,999-lb. lots, same basis	lb.	.243 -	—
bgs., smaller lots, same basis	lb.	.253 -	—
fib. dms., 1,000-lb. lots or more, same basis	lb.	.250 -	—
fib. dms., smaller lots, same basis	lb.	.253 -	—
USP, bgs, 500 lbs. or more, f.o.b. Fords, N. J., dlvd. New York City and Philadelphia	lb.	½ .42½-	—
bgs., smaller lots, same basis	lb.	.43½-	.48½
Hexane, industrial, tankcars, New Jersey and New York	gal.	.20 -	—
Houston, Texas	gal.	.16 -	—
1-Hexanol, dms., c.l., works	lb.	.35 -	—
dms., l.c.l., works	lb.	.35¾-	—
tanks, works	lb.	.33	—
Hexyl cinnamic aldehyde, dms	lb.	3.95	4.00
n-Hexyl methacrylate, dms., c.l., works	lb.	.75½-	—
dms., l.c.l., works	lb.	.76	—
Hexyl salicylate, dms.	lb.	1.70	1.75
Hexylene glycol, dms., c.l., dlvd	lb.	.17½-	—
dms., l.c.l., dlvd	lb.	.19 -	—
tanks, dlvd	lb.	.15 -	—
Hexylresorcinol, USP, dms., 25-lb. lots or more, dlvd	lb.	14.00 -	—
dms., smaller lots, dlvd	lb.	14.50 -	—
Homatropine hydrobromide, USP, bots	oz.	3.25 -	—
methylbromide, USP, bots	oz.	3.00 -	—
Hoofmeal, 17-18% ammonia, bulk, c.l., Chicago	unit-ton	6.75	—
Horehound herb, bls.	lb.	.18 -	.20
Hydrastis (see Goldenseal.)			
Hydrazine hydrate, 85%, 240-lb. dms., c.l., works	lb.	1.28 -	—
240-lb. dms., l.c.l., works	lb.	1.35 -	1.55
Hydriodic acid, purif., 47%, 2-cbys., f.o.b. works	lb.	2.92 -	—
Hydroabietyl alcohol, tech., solid, dms., c.l., dlvd. zone 1	lb.	.29¼-	—
dms., l.c.l., dlvd. zone 1	lb.	.29¾-	.30¼
tanks, dlvd. zone 1	lb.	.27¼-	—

Zone 1 for hydroabietyl alcohol comprises all of continental US except Ariz., Calif., Colo., Idaho, Mont., Nev., N. M., Ore., Utah, Wash., Wyo., and the western part of Texas.

Hydrobromic acid, medicinal, 48%, cbys., frt. equald	lb.	.48 -	.56
Hydrochloric acid, anhyd. (see Hydrogen chloride.)			
Hydrochloric acid, CP, USP, consumers, cbys, extra, c.l., works	lb.	.15¾-	—
cbys, l.c.l., same basis	lb.	.17¼-	.17¾
5-pint bots., extra cs. c.l., same basis	lb.	.20¾-	—
Hydrochloride acid, 18°, cbys., c.l., works 100 lbs.		2.50 -	—
cbys., l.c.l., dlvd. Metropolitan area 100 lbs.		2.90 -	3.00
tanks, works frt. equald ton		28.00 -	—
Hydrochloride acid, 20° cbys., c.l., works 100 lbs.		2.75 -	—
cbys., l.c.l., dlvd. Metropolitan area 100 lbs.		3.15 -	—
20°, tanks, works, frt. equald ton		30.00 -	—
22°, cbys., c.l., works 100 lbs.		3.25 -	—
cbys., l.c.l., dlvd. Metropolitan area 100 lbs.		3.65 -	—
tanks, works frt. equald ton		35.00 -	—
Hydrocortisone acetate, bulk, bots., kilo lots or more	gram.	.85 -	.90
Hydrocortisone alcohol, bulk, bots., kilo lots or more	gram.	1.00 -	1.90
Hydrocyanic acid, dilute, NF, 2%, 5-pint bots., f.o.b. works	pint.	.70 -	—
Hydrofluoric acid, anhyd. (see Hydrogen fluoride)			
Hydrofluoric acid, aqueous, 70%, 55-gal. or 30-gal. dms., c.l., t.l., dlvd 100 lbs.		17.25 -	—
Hydrofluoric acid, aqueous, 70%, 55-gal. dms., l.c.l., t.l.l., dlvd. 100 lbs.		18.75 -	—
20-gal. dms., c.l., t.l., dlvd. 100 lbs.		19.00 -	—
20-gal., dms., l.c.l., t.l.l., dlvd. 100 lbs.		20.50 -	—
tanks, works frt. equald 100 lbs.		11.50 -	—

Delivered prices apply to all states east of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Washington and Wyoming. In those states add $2.75 per cwt. for drum delivery.

Hydrofluosilicic acid, dms., works, 30% basis	lb.	.07 -	—
Hydrofuramide, dms., fib. ctns., works	lb.	.30 -	.40
50-lb. cyls., l.c.l., works	lb.	.55 -	.60
Hydrogen chloride, anhyd., 50-lb. cyls. l.c.l., works	lb.	.45 -	—
Hydrogen cyanide, liq. 98% tanks, works	lb.	.13 -	—
Hydrogen fluoride, anhyd., cyls., dlvd. E	lb.	.29 -	.31
cyls., dlvd. W	lb.	.37 -	—
tanks, works	lb.	.16 -	—
Hydrogen peroxide, 35%, dms., c.l., dlvd	lb.	.202	—
dms., l.c.l., dlvd.	lb.	.211	—
tanks, dlvd	lb.	1800-	—
Hydroquinone, photo grade, dms., 50-lbs. f.o.b. works	lb.	1.10	—
Tech., dms, c.l., dlvd	lb.	.82½-	—
dms, l.c.l. dlvd	lb.	.84½-	—
Hydroquinone monomethyl ether, dms., t.l. dlvd	lb.	2.59 -	—
dms., t.t.l., dlvd.	lb.	2.61 -	—
Hydroxyacetic acid, tech., 70% dms., Philadelphia and Chicago	lb.	.11 -	—
tanks, Belle W. Va.	lb.	.073 -	—
Hydroxycitronellal, cns.	lb.	5.25 -	5.65
Hydroxyethyl cellulose, fib. dms., 20,000-lb. lots or more, f.o.b. shipping point	lb.	.69 -	—
fib. dms., 2,000 to 19,999-lb. lots, same basis	lb.	.77 -	—
Hydroxyethyl cellulose, fib., dms., 100 to 1,999-lb. lots, basis	lb.	.81 -	—
fib. dms., smaller lots, same	lb.	1.01 -	—
Hyoscine salts (see Scopolamine)			
Hyoscyamine hydrobromide, bots.	oz.	7.75	8.50
Hyoscyamine sulfate, bots	oz.	7.75	8.50
Hypophosphorous acid, purit., 50%, 10-cbys. f.o.b. works	lb.	1.95 -	—
NF, 50%, 10-cbys., same basis	lb.	1.35 -	—

I

Ichthammol, NF, dms	lb.	.75 -	1.05
Indigo (see Dyes, Coaltar, 1171 indigo, syn.).			
Indole, CP, bots	lb.	13.65 -	15.00
Inositol, 50-100 lb. dms., 1,000 lbs. or more dlvd	lb.	4.50 -	—
50-lb. dms., less than 1,000 lb., dlvd	lb.	4.75 -	—
10 lb. cns., 10-50 lbs., dlvd.	lb.	5.00 -	—
5 lb. bots., dlvd.	lb.	5.25 -	—
Insect flowers (see Pyrethrum).			
Iodine, crude, kgs.	lb.	1.10 -	—
Resub., USP, dms., f.o.b. works	lb.	2.20 -	2.22
Iodochlorohydroquinolin, USP, dms.	lb.	3.60 -	—
Iodoform, NF, dms., 300-lbs., fo.b. works	lb.	4.90 -	—
dms., 100-lb., same basis	lb.	5.05 -	—
a-Ionone, cns.	lb.	4.60	5.75
b-Ionone, cns.	lb.	4.15	6.15
Ipecac root, whole, bgs.	lb.	7.75 -	8.00
Powd., bbls., bxs.	lb.	9.00 -	9.25
Irish moss, bleached, prime, bls	lb.	.35 -	—
Iron blue, alkali resistant, bbls., c.l., dlvd. E	lb.	.60 -	—
bbls. l.c.l. ton lots, same basis.	lb.	.61 -	—
bbls., smaller lots, same basis.	lb.	.62 -	—
Dom., reg. bbls., c.l., same basis.	lb.	.55 -	—
bbls., l.c.l., ton lots, same basis.	lb.	.56 -	—
bbls., l.c.l., smaller lots same basis	lb.	.57	—

Iron blue dlvd. prices 1c higher for Pacific Coast states: Wash., Ore., Cal., N. M., Ariz., Mont., Wyo., Utah, Col. and Nev.

Iron compounds (see Ferric or Ferrous).

Iron oxide, black, pure, bgs., c.l., works	lb.	.14¾-	—
bgs. l.c.l., works	lb.	.15	—
Iron oxide, brown, pure, bgs., c.l., works	lb.	.15¾-	—
bgs., l.c.l., works	lb.	.16 -	—

*When all is said and done... there is just one thought at this time of year—

Merry Christmas

and every good wish for the new year

Norda®

NORDA, 601 W. 26 St., New York 1, N. Y.

Chicago • Los Angeles • San Francisco • Toronto • Montreal • London • Paris • Grasse • Mexico City

Iron oxide, metallic, brown, l.c.l., bgs., works lb. .05¾- —
Iron oxide Persian Gulf red., bgs., l.c.l., works lb. .09½- —
Iron oxide, red, dom., pure, bgs., c.l., Bethlehem, E. St. Louis, New York City lb. .14¼- —
bgs., l.c.l., same basis lb. .14½- —
Iron oxide yellow, nat., French type, bgs., l.c.l., works lb. .07 - —
Peruvian type, bgs., l.c.l. lb. .025 - —
Iron oxide yellow pure, light lemon shade bgs., c.l., works lb. .12½- —
bgs., l.c.l., same basis lb. .12¾- —
Other shades, bgs., c.l., same basis lb. .12 - —
bgs., l.c.l., same basis lb. .12¼- —
Isoamyl alcohol, dms., c.l., works, frt. alld. E lb. .27½- —
Isoamyl alcohol, dms., l.c.l., same basis lb. .29 - —
tanks, same basis lb .25 —
Isobornyl acetate, cns. lb 1.44 1.50
Isobornyl formate, dms lb 1.15 1.20
Isobornyl propionate, dms lb 1.20 1.25
Isobutyl acetate, perfume grade, cns lb. .30 .35
Solvent grade, dms., c.l., divd E. of Rockies lb. .15¼- —
dms., l.c.l., same basis lb. .16¾- —
tanks, same basis lb. .12¾- —
Isobutyl alcohol, dms., c.l., divd lb. .15½- —
dms., l.c.l., divd. lb. .17 - —
tanks, divd. lb. .13 - —
Isobutylene, 99%, tanks, works gal. .38 - —
Isobutyl isobutyrate, dms., f.o.b. works lb. .75 - —
Isobutyraldehyde, tech., dms., c.l., divd lb. .22 - —
dms., l.c.l., divd. lb. .23½- —
tanks, divd. lb. .19½- —
Isobutyric acid, dms., c.l., t.l., divd. lb. .35 - —
dms., l.c.l., t.l., same basis lb. .36½- —
t.c. t.t., same basis lb. .33 - —
Isobutyronitrile, d.ms., c.l., divd. lb. .47½- —
dms., l.c.l., divd. lb. .48½- —
tanks, divd. lb. .45 - —
Isoeugenol, cns. lb. 3.10 - 3.40
Isoniazid, powd., bulk, 50 kilos kilo 12.00 - —
Isonicotinic acid, 100-lb fib. dms., works lb. 4.25 - —
Isonicotinic acid hydrazide (see Isoniazid).
Iso-octyl alcohol, dms., c.l., divd. E. lb. .20½- —
dms., l.c.l., divd. E. lb. .22 - —
tanks, divd. E. lb. .18 - —
Iso-octyl isodecyl phthalate, dms., c.l., frt. alld. E lb. .25½- —
dms., l.c.l., same basis lb. .27 - —
tanktrucks, 1,000 - 1,999 gals., same basis lb. .23½- —
tanktrucks, 2,000 gals., same basis lb. .23 - —
Isopentane, coml. grade, tanks, f.o.b. Tex. refy gal. .16½- —
Isophorone, dms., c.l., divd. lb. .25 - —
dms., l.c.l., divd. lb. .26½- —
tanks, divd. lb. .22½- —
Isophthalic acid, dms., c.l., works, frt. equald lb. .14½- —
dms., l.c.l., same basis lb. .15½- —
Isopropanol (see Isopropyl alcohol).
Isopropyl acetate, dms., c.l., divd. lb. .14 - —
dms., l.c.l., same basis lb. .15½- —
tanks, same basis lb. .11½- —
Isopropyl alcohol, refd., 91%, dms., c.l., divd gal. .58 - —
dms., l.c.l., divd. gal. .68 - —
tanks, divd. gal. .42 - —
Isopropyl alcohol, 95%, c.l., dms., divd gal. .60 - —
dms., l.c.l., divd. gal. .70 - —
tanks, divd. gal. .44 - —
Anhyd., c.l., divd. gal. .62 - —
dms., l.c.l., divd. gal. .72 - —
tanks, divd gal. .46 - —
Isopropyl benzene (see Cumene).
Isopropyl ether, dms., c.l., divd lb. .09½- —
dms., l.c.l., divd. lb. .11 - —
tanks, divd lb. .07 - —
Isopropyl-N-(3-chlorophenyl) carbamate (CIPC) tech., dms., c.l. t.l., works lb. 1.00 - —
dms., l.c.l., works lb. 1.05 - 1.25
tanks, works lb. .99 - —
Isopropylamine (see Mono, Di, or Tri-).
Isopropyl-N-phenyl carbamate, 450-lb fib dms. c.l., t.l., works lb. .75 - —
450-lb fib dms., l.c.l., works lb. .80 - .90
Isoquinoline, dms., works lb. .65 1.25
Itaconic acid, refd. bgs. c.l. f.o.b. works lb. .39½- —
bgs., l.c.l., same basis lb. .41 - .43
Tech., bgs., c.l., same basis lb. .34½- —
bgs., 500-lbs. same basis lb. .36 - —

J

J acid, paste, bbls., works, 100% basis lb. 2.70 - —
Powd., bbls., same basis lb. 2.78 - —
Jalap root, NF, bls lb. .55 - .60
NF, powd., bbls., bxs lb. .65 - .70
Japan wax, cs. lb. .29 - .31
Juniper berries, bgs lb. .25 - .30
Juniper berry oil, NF, bots. lb. 2.90 - 3.75
Twice rectified, bots. lb. 3.25 - —
Juniper tar oil, NF, dms. lb. .42 - .60
Juniper wood oil, tech., cns. lb. .38 - .55

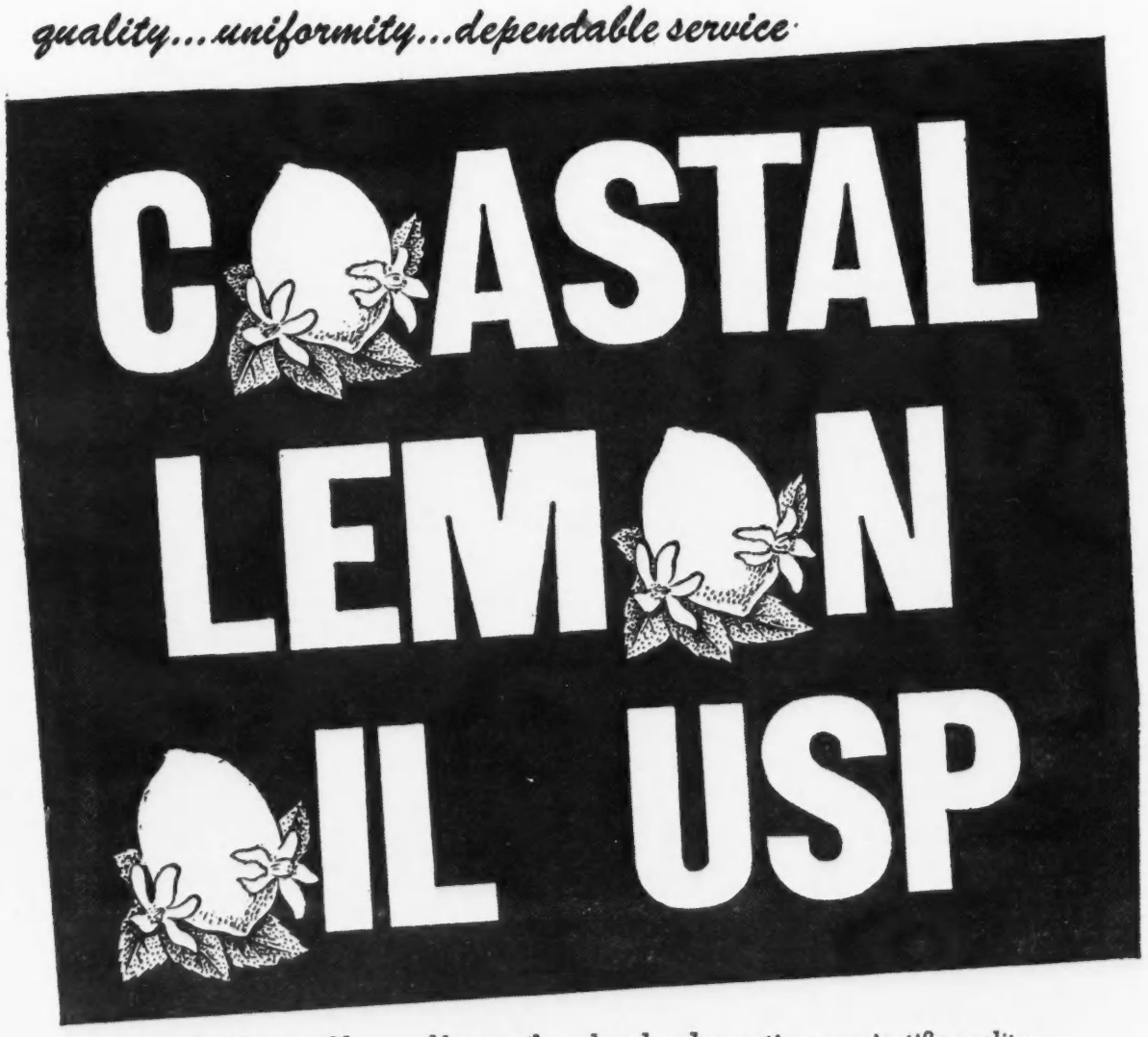
K

Kaolin (see also Clay, China).
Kaolin, NF, powd., fib. dms. lb. .10 - .12
NF colloidal 50-lb. bgs. lb. .15½- .17½
Karaya gum, No. 1, NF, powd., bls lb. .48 - .50
No. 2, powd., bbls. lb. .43 - .45
No. 3, powd., bbls. lb. .37 - .40
Koch acid, bbls., frt. alld., 100% basis lb. 1.00 - —
Kola nuts, bgs. lb. .11 - .12

L

L acid, bbls., works lb. 1.25 - —
Lacquer diluent, petroleum, 140°F. 200°F. b.r., tankcars, New Jersey and New York gal. .20 - —
Group 3 gal. .15125- —
Houston, Texas gal. .16 —
200°F-240°F b.r., tankcars, New Jersey or New York gal. .20 - —
Group 3 gal. .14125- —
Houston, Texas gal. .16 —
Lactic acid, food processing, 50%, dms., c.l., t.l., divd. N.Y., Phila lb. .1986- —
dms. 20 or more, same basis, lb. .2036- —
dms., 5 to 19, same basis lb. .2086- —
dms., 1 to 4, same basis lb. .2136- —
80%, c.l., dms., same basis lb. .3336- —
dms., 20 or more, same basis, lb. .3386- —
dms., 5 to 19, same basis lb. .3436- —
dms., 1 to 4, same basis lb. .3486- —
Plastic grade, 50% c.l., bbls., works lb. .2740- —
bbls., 20 or more, works lb. .2790- —
bbls., 5 to 19, works lb. .2840- —
bbls., 1 to 4, works lb. .2890- —
Plastic grade, 80% bbls., c.l., works lb. .4625- —
bbls. 5 to 19, works lb. .4725- —
bbls., 1 to 4, works lb. .4775- —
Tech., 44%, bbls., c.l., works, 100 lbs. 12.45 - —
bbls., l.c.l., works 100 lbs. 12.85 - —
USP, 85%, cbys lb. .85 - —
Lactose, crystalline, edible, bgs., 23,000-lb. lots, frt. equald lb. .14 - —
bgs., 6,000-lb lots, frt equald lb. .14½- —
bgs., 2,000-lb lots, frt equald lb. .14¾- —
bgs., 200-lb lots, frt equald lb. .15¼- —
Edible lactose in fib dms. ½c higher
Lactose, ferment, grade, bgs., c.l., works lb. .08¾- —
USP, reg., fib. dms., 30,000-lb. lots, frt. equald lb. .21½- —
fib. dms., 2,000-lb. lots, frt. equald lb. .22¼- —
200-1,880-lb. lots, frt. equald lb. .22¾- —
USP lactose in bags ½c. to 1c. lower
Lactose, USP, spray dried, bgs., t.l., frt. equald lb. .18½- —
bgs., l.t.l., frt equald lb. 19 .19¾
Lady's slipper root, bls. lb. 3.50 - —
Lamp black, bgs., c.l., works lb. .16 - .45
Lanolin, USP, anhyd., 400-lb. dms., works lb. .24 - .28
USP, anhyd., cosmetic, 400-lb. dms., works lb. .26 - .30
USP, hydrous, 400-lb dms., works, lb. .20 - —
Lard, cash, dms., Chicago lb. .08½- —
Lard oil (see Grease oil).
Larkspur seed, bgs. lb. .55 - —
Laurel leaf oil, dms., cns. lb. 9.75 - 12.50
Laurent's acid, bbls lb. .87 - —
Lauric acid, pure, dms. lb. .30¼- .32¼
bags lb. .28¾- .31¼
tanks lb. .27¾- —
Lauryl alcohol, bots lb. 2.00 2.50
n-Lauryl methacrylate, dms., c.l., t.l., works lb. .65½- —
dms., l.t.l., works lb. .66 - —
Lavandin oil, 22-24%, dms. lb. 1.15 - —
Abrial, dms. lb. 1.20 - —
Lavender flowers, medium, bls lb. .55 - .60
Ord., bls lb. .20 - .25
Select., bls lb. .90 1.00
Lavender flower oil, USP, French, 35-37% ester, cns lb. 2.25 - 4.00
40-42% ester, cns. lb. 3.50 - 3.65
Spike, Spanish, cns lb. 1.75 2.00
Lead acetate, NF, cryst., dms lb. .37½- —
White, cryst., bbls. lb. .25½- —
gran., bbls. lb. .26½- —
powd., bbls lb. .26½- —
Lead arsenate, acid powder, dealers, 3-50-lb. bgs or any quantity frt. alld. on $150 or more lb. .30½- —
1-lb bgs., same basis lb. .47 —
Lead, blue, basic sulfate, bbls., c.l., shipt. point, frt. alld. lb. .15½- —
bbls., l.c.l., same basis lb. .16½- —
Lead carbonate (see Lead, white, basic carbonate).
Lead chloride, 400-lb. fib. dms lb. .56 - —
Lead iodide, NF, crystals lb. 3.82 - —
Lead linoleate, fused, 24% liq. Pb, dms lb. .21¼- —
Lead metal, prime, pigs, New York lb. .10- —
St. Louis lb. .0980- —
Lead monosilicate, bgs., c.l., works, lb. .1240- —
bgs., l.c.l., same basis lb. .1340- —
Lead naphthenate, liq., 16% Pb., dms., divd lb. .19½- —
24% Pb., dms., divd lb. .24¼- —
Solid, 37% Pb., dms. divd lb. .31¾- —
Lead nitrate, tech., cryst., 400-lb. fib. dms lb. .2675- —
Lead orthosilicate gel., 50-60% PbO_2, dms., works lb. .29¾- .34¼
Lead peroxide, tech powd., bbls lb. .45 - .50
Lead phthalate dibasic, dms., works, lb. .41 - —
Lead, red, 95% Pb_3O_4 or less, bbls., c.l. works lb. .13 - —
bbls., l.c.l., same basis lb. .14 - —
97% Pb_3O_4 or less, bbls., same basis lb. .1320- —
bbls., l.c.l., same basis lb. .1420- —
98% Pb_3O_4, bls., c.l., same basis lb. .1335- —
bbls., l.c.l., same basis lb. .1435- —
Lead, resinate precip. 23%Pb, dms., lb. .49 —
Lead salicylate, normal dms. works lb. .46 —
Lead silicate (see Lead white basic silicate).
Lead silicochromate, bgs., c.l., works lb. .19 - —
bgs., l.c.l., same basis lb. .20 - —

quality...uniformity...dependable service



PURE California cold pressed lemon oil produced under continuous scientific quality control . . . bulk blended for uniformity, from desert and coastal grown lemons . . . packaged in tamper-proof containers for your protection . . . and priced to save you money. Our research and laboratory facilities have helped many users with product improvement and cost reduction...perhaps we can help you.

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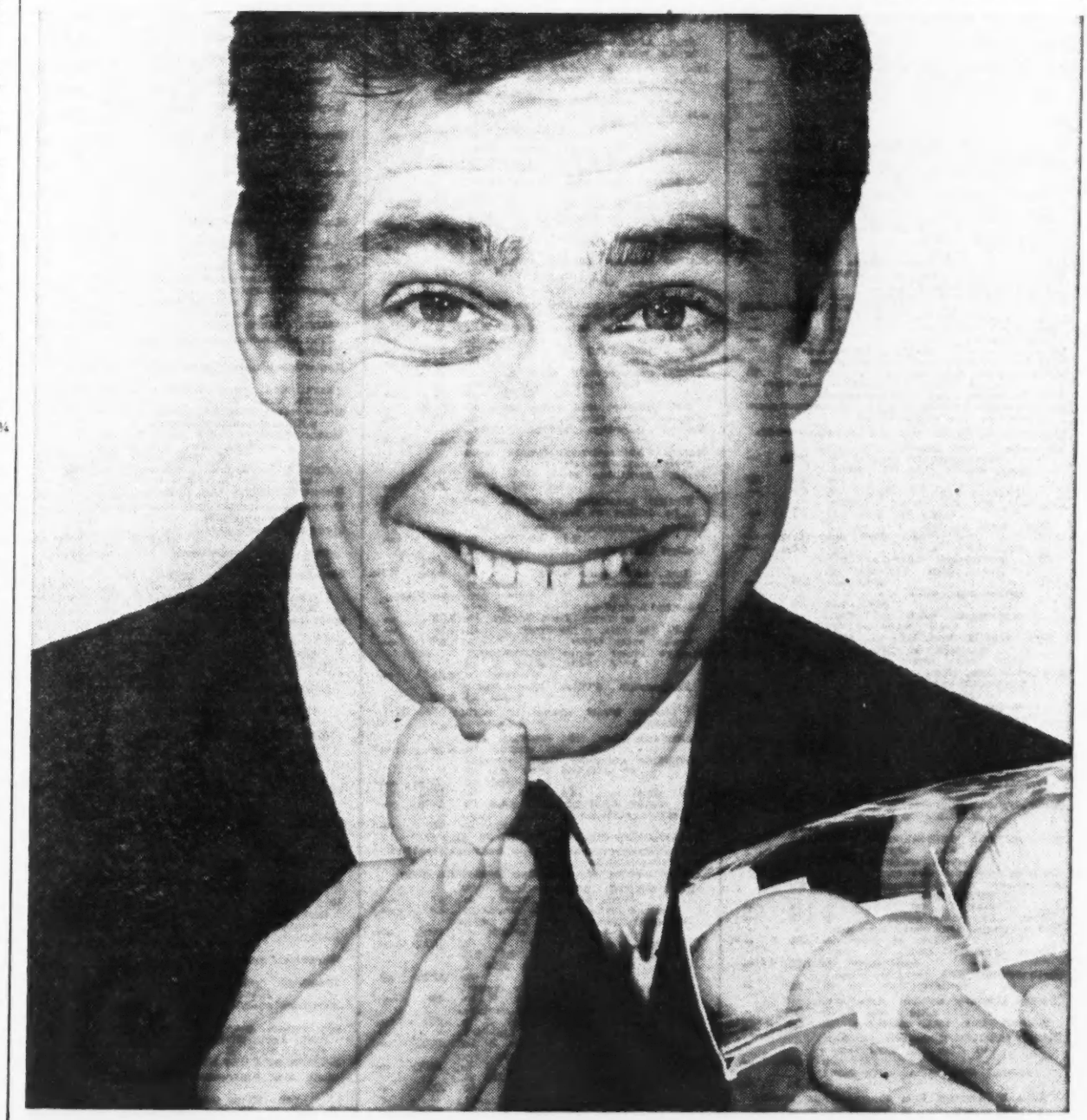
Ventura Processors, 2325 Vista Del Mar Drive, Ventura, California

Lead sulfate (see Lead blue basic sulfate and Lead white basic sulfate).			
Lead tallate liq. 15% Pb. dms	lb.	.17¼	—
24% Pb. dms	lb.	.21¼	—
Solid 30% Pb. dms	lb.	.26¾	—
Lead white, basic carbonate, bgs., c.l., frt. alld.	lb.	.16½	—
bgs., l.c.l., same basis	lb.	.17½	—
Basic silicate, bgs., c.l., same basis	lb.	.15½	—
bgs., l.c.l., same basis	lb.	.16½	—
Basic sulfate, bgs., c.l., same basis	lb.	.15½	—
bgs., l.c.l., same basis	lb.	.16½	—
Lecithin, edible tech. bleached, non-ret dms., c.l. works.	lb.	.14	.15
non-ret dms., l.c.l., same basis	lb.	.15	.16
Lecithin, edible, tech., unbleached, non-ret. dms., c.l., same basis	lb.	.13	.14
non-ret dms., l.c.l. same basis	lb	.14	.15
Lemon bioflavonoid complex, 50 kilos, f.o.b works	kilo	14 20	—
Lemon oil, USP, Calif., cns. dms	lb	2.45	3.75
Messina, cns	lb	4.00	6.50
Lemongrass oil, cns., dms	lb.	4.00	—
dl-Leucine, dms. 1 kilo, works	kilo.	50.00	—
Licorice root, gran. nls	lb	13	—
Powd. bls	lb	15	16
Whole bls	lb	09	10
Lignaloe wood oil, Mexican, cns	lb	2.75	3.50
Lignosulfonate (see under Ammonium or Sodium lignin sulfonate)			
Lilac oil	lb	1,500.00	
Lime chemical (quicklime), bulk, c.l. 50,000 lbs. works, E	ton.	14.25	—
Chemical hydrated, bgs., c.l., same basis	ton.	17.25	—
spray, bgs., c.l. same basis	ton.	18.25	—
For New York delivery add $6.29 freight charge			
Lime oil, dist., Mexican, dms.	lb.	5.25	6.00
West Indian, dms.	lb.	5.25	6.00
Expressed West Indian, dms	lb	6.50	7.75
Lime salts (see Calcium)			
Lime-ammonium nitrogen, 20.5% N (see Ammonium nitrate with dolomite).			
Linalool ex bois de rose oil, dms.	lb.	2.45	4.25
Syn., 98-100% dms., works	lb.	3.20	—
Linalyl acetate ex bois de rose, 90-92%, dms	lb	2.65	4.50
96-98% dms	lb	3.25	—
Syn., 98-100%, dms., works	lb.	3.20	—
Lindane, 25% formulation to distributors, dms. frt. alld.	lb.	1.35	1.50
99%, tech. to formulators, 250-lb dms., 5,000 lbs., dlvd	lb.	2.13	—
100-lb. dms., 5,000-lbs. dlvd	lb.	2.15	—
250-lb dms. less than 5,000-lbs., dlvd	lb.	2.18	—
100-lb dms. less than 5,000-lbs. dlvd	lb	2.20	—
Linden flowers, with leaves, bls	lb.	.35	.40
Without leaves, bls.	lb.	42	.45
Linseed meal, expeller, 32%, bulk, Minneapolis, mills—ton.		62.00	—
Extracted, 34%, bulk, same basis	ton.	59.00	—
Linseed oil, raw, dms., c.l., New York	lb.	.1880-	—
dms, New York, l.c.l.,	lb.	.2080-	—
tanks, f.o.b. Minneapolis	lb.	.1520-	—
tanks, New York	lb.	.1628-	—
tankwagon, New York	lb.	.1653-	—
Boiled linseed oil, .006c. per lb higher.			
Linseed oil acid, dist., dms.	lb.	.22½	.25
tanks	lb.	.20	—
water-white, dms.	lb.	.27¼	.29¾
tanks	lb.	.24¾	—
Litharge, coml., powd., bbls., c.l., works	lb.	.12½	—
bbls., l.c.l., same basis	lb.	.13½	—
Lithium aluminum, hydride, lump, dms., works	lb.	33.00	39.00
Lithium benzoate dms.	lb.	1.65	1.67
Lithium bromide, NF, gran., bgs., works, frt. equald	lb	2.60	—
Lithium carbonate, NF, dms., ton lots	lb.	.58	—
dms., 1,999 lbs. or less	lb.	.64	—
Tech., dms., ton lots	lb.	.57	—
dms., 1,999 lbs. or less	lb.	.63	—
Lithium chloride, CP, anhyd., dms., ton lots	lb.	1.23½	—
Tech. anhyd., dms., c.l., t.l., dlvd. or works, frt. alld	lb.	.87	—
dms. l.c.l. same basis	lb.	.88	.92
Lithium citrate, NF, dms. ton lots.	lb.	1.50	—
Lithium fluoride, dms., 20,000-lb. lots, dlvd	lb.	1.75	—
bbls., ton lots and more, dlvd	lb.	1.85	—
bbls., less ton lots, dlvd	lb.	1.90	—
Lithium hydride, powd., dms., 500-lbs lots or more, works,	lb.	9.50	—
Lithium hydroxide, monohydrate, dms., c.l., t.l., frt. alld.	lb.	.54	—
dms., l.c.l., frt. alld.	lb.	.58	—
Lithium manganite, dms. works	lb.	.95	1.05
Lithium nitrate, tech., dms., 100-lb. lots	lb.	1.15	1.25
Lithium salicylate dms.	lb.	1.60	1.70
Lithium silicate, dms., works	lb.	1.10	1.20
Lithium stearate, dms. c.l., works.	lb.	.47½	—
dms. ton lots, works	lb.	.48½	—
dms., less-ton lots, works	lb.	.53½	—
Lithium sulfate, dms., 100-lb. lots.	lb.	1.15	1.25
Lithium titanate, dms., works	lb.	1.15	1.25
Lithol red toner, barium, bbls., works	lb.	1.03	—
Lithol red toner, pure, bbls., works.	lb.	1.65	—
Resinated, bbls., works	lb.	1.47	—
Lithopone, ord., bgs., c.l., dlvd. E.	lb.	.06¾	—
bgs., l.c.l., dlvd. E	lb.	.09½	—
Titanated (high-strength), bgs., c.l., dlvd.	lb.	.11	—
bgs., l.c.l. dlvd.	lb.	.12	—
Lobelia herb, bls	lb.	.80	—
Lobeline sulfate, bots., 50-oz. lots, works	oz.	30.00	—
Locust bean gum, powd., bgs.	lb.	.35	.46
Lycopodium, cs.	lb.	2.50	3.00
l-Lysine monohydrochloride, 25-lb. dms.	lb.	4.50	—

M

Mace, Siauw, No. 1, bls	lb.	1.25	—
No. 2, whole, bls	lb.	1.15	—
siftings, bls.	lb.	1.10	—
Mace oil, dist., cns., dms.	lb.	8.00	10.00
Magnesia, calcined, tech., bgs., ctns, frt. equald	lb.	.25¾	.26½
Tech., syn., rubber grade, light, bgs., c.l., frt. equald	lb	.28¾	.30
Magnesia, calcined, tech., syn., rubber grade, extra light, bgs., c.l., frt. equald	lb.	.28	—
bgs., l.c.l., frt. equald	lb.	.28¾	—
Above prices are quoted f.o.b. works, freight equald., with Metropolitan New York and competitive producing points			
Magnesia, calcined, tech., heavy, 85% bgs., c.l., f.o.b. Lunning, Nev	ton.	39.50	—
91%, bgs., c.l., same basis	ton.	49.50	—
95%, bgs., c.l. same basis	ton	59.00	—
USP light, bgs.	lb.	.36½	.37½
USP, heavy, bgs.	lb.	.36½	.37½
Magnesite chemical grade, calcined, powd., bgs., c.l., works, frt equald	ton.	86.25	—
Deadburnt, standard grain, bulk c.l., Chawelah, Wash.	ton	46.00	—
Magnesium bromide, 80-lb. dm., f.o.b works	lb	1.15	—
Magnesium carbonate, tech., bgs., c.l., frt. equald	lb.	.41	—
bgs., t.l., frt equald	lb.	.11½	—
bgs., l.c.l. frt equald	lb.	.13½	.14
USP, bgs., c.l., frt. equald	lb.	.13½	—
ogs. t.l., frt equald	lb	.14	—
bgs. l.c.l. frt equald	lb	15	16
Above prices are quoted f.o.b. works, freight equald. with Metropolitan New York and competitive producing points.			
Magnesium chloride, anhyd. 92%, flake or pebble, drums., c.l. works	lb.	12¾	—
dms. l.c.l. works	lb	14	.15
hydrous 99% flake bgs., c.l. works	ton	60.00	—
bgs. l.c.l., works	ton	75.00	100.00
Magnesium gluconate 100-lb dm. f.o.b works E	lb.	1.42	—
Magnesium hydroxide, NF powd., dms. 500-lbs or more, f.o.b works	lb.	.24½	25½
Magnesium lauryl sulfate dms., c.l., frt alld	lb.	.22½	—
dms., t.l., frt alld	lb.	23½	—
tanks, frt alld	lb.	.21½	—
Magnesium metal, 99.8%, ingots, 10,000-lb lots or more, works	lb.	.36	—
pigs., 10,000-lb lots or more, works	lb.	.35¼	—
sticks, cs. works, same basis	lb.	.59	—
Magnesium nitrate, cryst., dms., works	lb.	.29	—
Magnesium oxide (see Magnesia, calcined).			
Magnesium phosphate, tribasic, NF, bbls	lb.	.75	—
Magnesium silicate (see Talc)			
Magnesium silicofluoride, dms., works	lb	.10½	.12
Magnesium sulfate, tech., bgs., c.l., works	100 lbs.	2.15	—
bgs. l.c.l., works	100 lbs.	2.90	3.15
USP, cryst., bgs., c.l., works.	100 lbs.	2.33	—
bgs. l.c.l., 5,000 lbs., 1 withdrawal	100 lbs	3.10	—
bgs., smaller lots	100 lbs	3.35	—
Magnesium trisilicate, USP, powd., fib. dms., 5,000-lb. lots	lb.	.38	—
fib dms. 1,000-lb lots	lb.	40	—
fib dms. 100-lb lots	lb.	45	—
USP, micronized powd., dms., 500-lb. lots	lb.	.80	—
Malachite green, straight, PTA, bbls., works	lb	5.30	—
Malathion, dms., c.l., works	lb.	89	—
dms., l.c.l., works	lb.	.92	1.01
Maleic acid, cryst. powd. dms	lb.	.37¼	—
Maleic anhydride, dms., c.l., frt. equald	lb.	.23	—
dms., l.c.l., frt. equald	lb.	.24½	—
tanks, frt. equald	lb.	.21½	—
Maleic anhydride in bags ½c per lb. less			
Malic acid, tech., dms	lb	50	—
Mandelic acid, NF, dms., 1,000-lb lots	lb	2.35	—
dms., smaller lots	lb	2.40	2.50
Mandrake root, bls.	lb.	.42	.44
Manganese acetate, dms. dlvd	lb	35	—
Manganese borate, tech. 6b dms.	lb.	.23½	—
Manganese carbonate, chemical grade, 46% Mn, bgs., 20,000-lb lots and more, works	lb	11	.16
Manganese chloride, CP, anhyd., dms. 20,000-lb lots, works	lb	21¾	—
smaller lots, works	lb	23½	—
Manganese dioxide, African, 83-87%, 40,000 to 99,999-lb lots, burlap paper lined bgs., gross for net works, ton		148.00	—
40,000 to 99,999-lb lots paper bgs. same basis	ton	144.50	—
Manganese dioxide, African, 83-87%, 40,000 to 99,999-lb lots, dms same basis	ton	152.50	—
Prices for manganese dioxide in 10,000 to 40,000-lb lots $3 per ton higher			
Manganese gluconate dms	lb	1.84	—
Manganese hydrate dms. dlvd	lb	35	—
Manganese hypophospnite NF dms.	lb	3.52	—
Manganese linoleate, liq. 6% Mn, dms	lb.	.26½	—
Solid, precip. 8.2% Mn bbls	lb	41¼	—
Manganese metal, electrolytic dms., c.l., dlvd. E	lb.	.34½	—
dms., ton lots, dlvd E	lb.	37	—
dms., smaller lots, dlvd E	lb.	.39	—



They never had lemon so lemon!

Reason: a more intense lemon oil—Exchange Brand! Just an ounce or two gives *fuller* flavor to a one-hundred-pound bake of your product. When results are so dramatic, why skimp?

Insist on Exchange Brand Lemon Oil—the *only* oil that blends the three distinct flavor elements of California's best coastal, highland and desert lemons. Its uniformity is assured by the Sunkist name—and it comes to you in sealed tamper-proof containers.

Exchange

LEMON OIL, U. S. P.
CALIFORNIA COLD PRESSED
100% NATURAL OIL

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Sunkist Products Division Offices
60 Park Place, Newark 2, N. J.
400 West Madison Street, Chicago 6, Ill.
318 Cadiz Street, Dallas 7, Tex.
Also distributed in U.S. and Canada by Ungerer & Co.

Manganese naphthenate, liq., 6% Mn, dms., frt. alld lb. 29¾ - —
Manganese resinate fused, 3½% Mn, dms lb 29¼ - —
Precip. 6½ 7% Mn. dms lb. 42 - —
Manganese sulfate fertilizer grade, 65% $MnSO_4$, bgs., c.l., dlvd, S. E. ton 95.00 - —
bgs., l.c.l., dlvd, S. E ton 102.00 - —
75% $MnSo_4$, 30-tons same basis 85.00 —
Manganese tallate 6% dms lb 26½ —
Mannitol com'l fib dms ton lots, works lb 60 —
fib dms, to ton lots works lb 62 —
fib dms, single dm works lb 65 —
Marine pitch dms lb 04¼ .05
MBTS (see Mercaptobenzothiazyl disulfide).
MBT (see 2-Mercaptobenzothiazole).
Metamine bgs., c.l., works lb 26½ - —
bgs., l.c.l., works lb 28 —
Menadione, USP bots gram .044 .05
Menhaden oil crude tanks, works, Atl. & Gulf ports lb. .05½ - —
Menthol nat USP Brazilian large cry . . . 6.75 - 7.00
Nat. USP Brazilian regular crys . . . 6.65 - 6.90
Japanese cs. lb 10.25 - 10.50
Syn., USP, racemic, 25-lb lots lb 4.25 —
2-Mercaptobenzothiazole, bgs., fib, dms, ton lots works, frt, alld lb. 44 - —
bgs, fib dms, less ton lots, same . . . 46 - —
Mercaptobenzothiazyl disulfide bgs., fib dms, ton lots works, frt, alld lb 54 - —
bgs, fib dms, less ton lots, same basis lb 56 - —
Mercuric chloride NF cryst dms., 100 lbs. f.o.b works lb 4.03 - —
USP gran or powd., 50 lb dm., 100 lbs. f.o.b works lb 3.78 - —
Mercuric cyanide NF VIII powd, fib dms lb 5.84 —
Mercuric iodide red, NF, 100-lb. dm. f.o.b works lb 6.97 - —
Mercuric oxide red NF IX 50-lb dm 100 lbs f.o.b works, lb 4.72 - —
tech, 50-lb dm, 100 lbs, same basis lb 4.52 - —
yellow, NF, 50-lb. dm. 100 lbs., same basis lb. 4.89 - —
tech., dms., 100 lbs. lb. 4.35 - —
25-lb. fib. dm. lb. 4.38 - —
Mercurous chloride (see Calomel).
Mercury, ammoniated (see White precipitate, USP XV).
Mercury metal 76 lbs per flask net-flask 188.00 - 190.00
Mesityl oxide dms, c.l., dlvd lb 15 —
dms, l.c.l., dlvd lb 16½ —
tanks dlvd lb 12½ - —
Metaaminophenol (see m-Aminophenol).
Metachloroaniline (see m-Chloroaniline).
Metanilic acid, dms., works lb. .57 - .75
Metanitrotoluidine (see m-Nitrotoluidine).
Metanitroaniline (see m-Nitroaniline).
Metaphenylenediamine (see m-Phenylenediamine).
Metatoluidine (see m-Toluidine).
Metatolylenediamine (see 2,4-Tolylenediamine).
Methacrylic acid glacial 98% dms truckloads frt equald lb 42½ —
dms, smaller lots frt equald lb 43 .75
tanks works frt equald lb 40 —
Methanol, nat, denaturing grade, tanks frt alld gal 85 —
Syn. zone 1, dms, c.l. or c.l. min dlvd gal 51½ —
dms, l.c.l. dlvd gal 61½ —
Syn., tankwagon, 2,000-4,000 gal. lots, dlvd Metropolitan area gal. .35 —
tankwagon, 4,000 gal min, dlvd gal .30 —
tankwagon, 4,000 gal min, f.o.b. terminal gal. .29 —
Syn., zone 2, dms., c.l., t.l., min., frt. alld. or dlvd. gal. 55½ - —
dms. l.c.l. works gal. 65½ —
Methanol, syn, Zone 2, tankwagon, 2,000-4,000 gal. lots, min., dlvd. Metropolitan area gal. .39 —
tanks, 4,000 gal min dlvd. gal .34 —

Synthetic methanol zones are: Zone 1 is all continental US E. of eastern boundaries of Ariz., Idaho and Utah. Zone 2 is remainder of US west of above state boundaries comprising Ariz. Calif. Idaho, Nev. Ore. Utah and Wash.

Methapyrilene fumarate, 100-999 lbs. dms. f.o.b works frt equald lb 21.75 - —
Methapyrilene hydrochloride 100-999 lbs., dms f.o.b works, frt equald lb 27.25 —
Methenamine (see Hexamethylene tetramine).
Methionine hydroxyanalogue (calcium salt) 90% min. dms. c.l. frt. alld lb 1.10 —
dms. t.l.l. same basis lb 1.16 - —
dl-Methionine, fib dms, frt alld 50-lb or more lb 1.50 —
Feed grade, 98% fib dms same basis lb 1.43 - —
Methoxychlor 50% wettable powder dealers dms cs lb .66 —
Methyl abietate, non-ret dms, c.l., dlvd zone 1 lb 21½ —
non-ret dms., t.c.l. same basis lb 22 22½
Methyl abietate, hydrogenated, non-ret dms, c.l. dlvd zone 1 lb 23½ —
non-ret dms. t.c.l. same basis lb 24 24½

Zone 1 includes New England and Middle Atlantic states, Va., W. Va., N. C., Ohio, Ky., Mich., Ind., Ill., Wis., St. Paul and Minneapolis, Minn.; St. Louis, Mo., Miss., Ala., Ga., Fla., S. C. and Tenn.

Methyl acetone, nat, dms, c.l., E. of Miss. frt alld gal 62½ —
Syn. dms, c.l. frt alld E gal 60½ - —
dms., l.c.l. frt alld E gal 70½ - —
tanks frt alld, E gal 44½ —

Synthetic methyl acetone E. territory comprises all states East of and including Colo., Mont., N. Mex. and Wyo. West territory is made up of the states west of those four.

Methyl acrylate, dms, c.l. t.l. dlvd. lb .35¼ —
dms., l.t.l., dlvd lb .36¼ —
tanks dlvd. lb. .32¼ - —
Methyl alcohol (see Methanol).
Methyl amyl acetate, dms c.l., dlvd E lb .17 —
dms. t.c.l., dlvd E lb. 18½ —
tanks, dlvd E lb. 14½ - —
Methyl amyl alcohol, dms, c.l. dlvd, lb. .17 —
dms., t.c.l., dlvd lb. 18½ - —
tanks dlvd lb 14½ - —
Methyl amyl ketone, dms., c.l., t.l., f.o.b works lb 1.99¼ - —
dms. t.c.l., same basis lb 2.00 —
N-Methylaniline, tech., tanks, frt. alld lb. .60 - —
Methylanthranilate, cns. lb. 2.20 - 2.70
Methyl benzoate, cns., dms lb. .60 .75
Methyl bromide, service organization prices, 40 to 375-lb. cyls., large lots, frt. alld lb. .62 - .72
on 100 lbs lb. .73 - .79
Methyl cellulose, special vis., (1,500-4,000 cps.) 50-lb bgs., c.l., works lb. .82 - —
50-lb bgs., 2,000-lb lots and more, same basis lb. .89 - —
50-lb bgs. smaller lots, frt. alld. on 100 lbs lb 1.05 - —
Methyl cellulose, standard vis. (15,400 cps.) 50-lb. bgs., c.l., frt. alld lb. .69 - —
50-lb bgs. 2,000-lb lots and more, same basis lb. 76 - —
50-lb. bgs., smaller lots, frt. alld.
Methyl chloride, indust. cyls., frt. equald lb. .22¼ - —
tanks, multi-unit, same basis. lb. .16¼ - —
tanks, single unit, same basis. lb. 12¾ - —
Methyl chloride, refrigerator mfgs., cyls., dlvd lb. .48¾ - —
Other consumers or service men, cyls., dlvd lb. 67¾ —
Methyl chloroform (see 1,1,1-Trichloroethane).
Methyl cinnamate, cns lb. 2.05 - 2.20
Methyl ethyl ketone, dms., c.l., dlvd lb. .15 —
dms., t.c.l., dlvd lb. .16½ - —
tanks, dlvd. lb. 12½ - —
2-Methyl-5-ethyl pyridine, dms., c.l., works lb. .45 —
dms., t.c.l., works lb. .45¾ - —
tanks, works lb. .43 - —
Methyl formate, refd. dms lb. .35 .40
Tech. non-ret dms., any quantity works lb. .10 - —
tanks, works lb. .07 - —
α-D Methyl glucoside, tech., 100-lb. multiwall paper bgs. c.l., works lb. .26 - —
100-lb. multiwall paper bgs., t.l., min 23,000 lbs. works. lb. .27 —
100-lb multiwall paper bgs., l.t.l., works lb 28 —
Methyl heptin carbonate, bots lb. 27.25 - 29.00
Methyl p-hydroxybenzoate fib dms lb 1.90 2.00
Methyl ionone standard cns. dms. lb 3.40 3.85
Methyl isoamyl ketone, dms., c.l., dlvd lb. .20 —
dms., t.c.l., dlvd lb. 20½ - —
tanks, dlvd lb. 17½ - —
Methyl isobutyl carbinol (see Methyl amyl alcohol).
Methyl isobutyl ketone, dms., c.l., dlvd lb. .17 —
dms., t.c.l., dlvd lb. 18½ - —
tanks, dlvd lb. 14½ - —
Methyl methacrylate, dms., c.l., t.l., frt equald with Belle, W. Va lb. .31 —
dms., smaller lots same basis lb. 31½ - —
tanks, same basis lb. 29 - —
Methyl naphthyl ketone, cryst., cns lb. 2.45 4.30
Methyl parahydroxybenzoate (see p-Hydroxybenzoate).
Methyl parathion, tech. 80% dms., frt alld E lb. .84 - —
Methyl parathion prices 2c per lb higher in West.
Methyl roseaniline chloride, NF., 5-lb fib dms lb 6.90 - —
Methyl salicylate dms, c.l., frt. alld lb. 60¼ —
dms., t.c.l. same basis lb 62½ 67½
Methyl testosterone USP 100-gram bots gram No Prices
2-Methyl-5-vinyl pyridine 40-dm lots or more f.o.b works lb 1.32 - —
5-39 dm lots, same basis lb 1.37 - —
tanks, same basis lb 1.27 - —
Methyl violet toner, molybdated, PMA bbls, dlvd E of Rockies lb 2.95 - —
Tungstated PTMA bbls same basis lb 4.35 —
Methyl violet prices 1c higher W. of Rockies
Methylene blue, NF, crystals, 100-lbs., frt equald lb 4.10 - —
Methylene chloride, tech, straight or assorted dms c.l. or t.l. dlvd lb. .12½ - —
dms. t.c.l. t.l.l. dlvd lb. 13¾ - —
tanks 4,000 gal. min. dlvd lb 11¼ - —
α-Methylnaphthalene, 92% imp., dms, works lb 90 —
Methylpentanediol (see Hexylene glycol).
Methylphenylpyrazolone (see 1-phenyl-3-methyl-pyrazolone-5)
Methylthionine chloride (see Methylene blue).
Mica, dry grd. paint, plastic, 100 mesh bgs. c.l., works lb. .04 —
roofing, 20 to 80 mesh works lb .03 —
wet-grd. biotite bgs., c.l., works, frt alld E lb .06½ —
bgs. t.c.l. ex whse lb. 07¼ - —
paint or lacq. bgs., c.l., 325 mesh works frt alld E. lb. .08¼ - —
bgs. t.c.l. ex-whse or freight alld. E lb. .09 —
wet-grd., rubber, bgs., c.l., works, frt. alld. E lb. .08 - —
bgs, t.c.l. ex whse or frt. alld E lb. .08¾ - —
wallpaper, bgs., c.l., works, frt. alld. E lb. .08¾ - —
bgs. ex whse or frt alld E. lb. .09 —
Mica, white, 5-10 microns, bgs., c.l., works frt alld E lb .08¼ —

Mica, wet grd. W. of Miss. ½c higher; W. of Rockies 1c higher.

Microcrystalline wax, petroleum, coating grades, tankcars, works lb. .10 .11
laminating grades tankcars, works lb. .11 .12
Mineral black, bgs, works lb. .0160 - .0673
Mineral oil, white tech, 50-65 vis., non-ret dms, c.l. f.o.b. refy gal. .70 —
non-ret dms., t.c.l., same basis gal. .75 - —
tankcars, refy gal. .54 —
65-75 vis., non-ret dms., c.l., same basis gal. .70½ - —
non-ret dms t.c.l. same basis gal. .75½ - —
tankcars refy gal. .54½ - —
NF, 80-90°/ vis., non-ret. dms., c.l., same basis gal. .71 - —
non-ret dms. t.c.l., same basis gal. .76 - —
tankcars, refy. gal. .55 - —
135-138 vis., non-ret. dms., c.l., same basis gal. .77 - —
non-ret. dms., t.c.l., same basis gal. .82 - —
tankcars, refy. gal. .61 - —
Mineral oil, white, NF, 145-155 vis., non-ret. dms., c.l., same basis gal. .83 - —
non-ret. dms., l.c.l., same basis gal. .88 - —
tankcars, refy. gal. .67 - —
USP, 180-190 vis., non-ret. dms., c.l., same basis gal. .85 - —
non-ret. dms., t.c.l., same basis. gal. .90 - —
tankcars, same basis gal. .69 - —
200-210 vis., non-ret dms. c.l., f.o.b. refy gal. .875 - .90
non-ret. dms., t.c.l., same basis gal. .925 —
tankcars, refy. gal. .69 .715
340-350 vis., non-ret dms., c.l., f.o.b. refy gal. .92½ - —
non-ret. dms., t.c.l. gal. .97½ - —
tankcars, refy. gal. 76½ - —
(For dlvd. N.Y. prices add 2c. for c.l. and 3c. for l.c.l.).
Mineral orange, American, bbls., c.l., works lb. .15¼ - —
bbls., l.c.l., same basis lb. .16¼ - —
Mineral spirits, petroleum, odorless, tankcars New Jersey gal. .29 - —
New York gal. .305 - —
Houston, Texas gal. .25 - —
regular, tankcars, New Jersey and New York gal. .18 - —
Group 3 gal. .12875 - —
Houston, Texas gal. .145 —
140 F flash, New York, New Jersey at terminal gal. .205 - —
Houston Texas gal. .17 - —
Mink oil, dms lb. 1.75 - —
Mirbane oil (see Nitrobenzene).
MNPT maroon toner, kgs., c.l., works lb 6.30 - —
Molasses, blackstrap, feed grade, tanks, New Orleans gal. .12 - .12½
tanks, New York gal. .15½ - .16
Molybdated orange, bbls. lb. 49 —
Molybdenum metal, powd., 80 or 200 mesh, ctns., works kilo 7.84 - —
325 mesh, ctns. works kilo 9.13 - —
Molybdenum trioxide, purif., dms., works lb. 1.25 - —
Tech. chemical, dms., works, basis Mo content lb. 1.61 - —
Tech. metallurgical, dms., works, basis Mo. content lb. 1.60 - —
Molybdic acid, 84% dms., works. lb. 1.15 1.25
Monoallylamine, dms., c.l., dlvd lb. .365 —
dms., c.l., dlvd. lb. .995 —
tanks, dlvd lb. .96 —
Monobutylamine, dms., c.l., dlvd. E. of Rockies lb. .57½ - —
dms., t.c.l., same basis lb. .59 - —
tanks, same basis lb. .55 - —
Mono-tert-butyl-m-cresol, dms., c.l., works lb. .55 - —
dms., t.c.l., works lb. .56 - —
tanks, works lb. .54 - —
Monochloroacetic acid, purif. (see Chloroacetic acid, mono).
Monochlorobenzene, dms., c.l., frt. alld or dlvd. E lb. .10½ - —
dms., t.c.l., same basis lb. 11½ - —
tanks, same basis lb. 08¾ - —
Monochlorobenzene prices in the West 1¾c. higher.
Monoethanolamine, dms. c.l., dlvd. E lb. .27½ - —
dms., t.c.l., same basis lb. .29 - —
tanks, same basis lb. .25 - —
Monoethylaniline, anhyd., dms., c.l., dlvd lb. .33½ - —
dms., t.c.l. same basis lb. .35 - —
tanks, same basis lb. .31 - —
Monoethylamine, anhyd., cyls., l.c.l. frt equald., 100% basis lb. .30 - —
tanks, 100% basis lb. .26 - —
30-35% soln., dms., c.l., frt. equald 100% basis lb. .36 - —
30-35% soln., dms., l.c.l. frt. equald, 100% basis lb. .36½ - —
tanks frt equald, 100% basis, lb. .26 - —
40% soln. dms. frt equald., 100% basis lb. .33 - —
dms., t.c.l. frt. equald. 100% basis lb. .33½ - —
tanks frt equald, 100% basis lb. .26 - —
Monopentaerythritol, tech bgs., c.l., dlvd lb. .29 - —
bgs., t.c.l. lb. .30 - —
Monopotassium glutamate, dms., 1,000 lb lots frt alld lb 3.05 - —
dms 100 lb lots same basis lb 3.25 - —
Monosodium glutamate, dms, dlvd. lb. 1.02 1.07
Monosodium phosphate (see sodium phosphate monobasic)
Montan wax, Calif., refd. bgs lb. .29 .30
imp., crude Bohemian, bgs lb. .25 - .26
German bgs lb. .25 - .26
Morphine, cns. 100-oz. f.o.b. works. oz 12.35 - —
Morphine hydrobromide, cns., 100-oz. f.o.b works oz 9.90 - —
Morphine hydrochloride, NF cns., 100-oz., f.o.b works oz 9.90 - —
Morphine sulfate, USP cns. 100-oz., f.o.b works oz 9.90 - —
Morpholine, dms c.l. dlvd E lb. 55¼ - —
dms., t.c.l., dlvd. E lb. .56¾ - —
tanks, dlvd E lb. .52¾ - —
Muriatic acid (see Hydrochloric acid).
Musk, syn, ambrette 6lb dms., 100-lb lots lb 4.40 4.90
cns., 25-lb lots lb 4.50 5.00
Ketone 6lb dms., 100-lb lots lb 4.60 5.10
cns., 25-lb lots lb 4.70 5.20
Xylol, 6lb dms., 100-lb lots lb 1.26 —
cns., 25 lb lots lb 1.40 —
Mustard seed, Danish, yellow, bgs. lb. .11 - —
Montana yellow, bgs lb. 10½ - —
Oriental, bgs lb. .09 —
Mustard oil, syn, bots lb. 1.60 1.85
Myristic acid, bgs lb. .23¼ - .25¼
tanks lb. .22¼ - —
Myrrh gum, cs lb. .65 .75

N

Naphtha, high solvency (see Solvent naphtha, petroleum)
Naphtha, petroleum, cleaner's (see Cleaner's naphtha)
Naphtha, VM&P, petroleum, tankcars, New Jersey and New York gal. .19 - —
Group 3 gal. .13875 - —
Houston, Texas gal. .155 —
Naphthalene, crude, dem., 78°, tanks, f.o.b., frt. equald lb. .06¼ - .06½
Refd. indust. chipped, crushed, bgs., frt. equald lb. .14½ - —
tanks, same basis lb. .11¾ - —
Naphthalene, refd., indust., balls, flakes, wholesalers, jobbers, bbls., c.l., same basis lb. .15¼ - —
cs., 50 lbs., c.l., same basis, lb. .18¾ - —
1-lb. pkgs., c.l., same basis, lb. .18½ - —
a-Naphthol, dms., frt. alld lb. 1.02 - —
b-Naphthol, tech., flake bbls., c.l., works lb. .34 - —
bbls. l.c.l., works lb. .36 - —
Naphthol, ITR, red toner, bbls., works lb. 5.00 - —
1-Naphthol-3,6-disulfonic 8-amino acid (see H acid).
1-Naphthol-4 sulfonic acid (see Neville and Winther's acid)
1-Naphthol-5-sulfonic acid (see L acid)
1-Naphthol-5-sulfonic 8-amino acid (see S acid).
2-Naphthol-6,8-disulfonic acid (see Gamma acid).
Naphthol sulfonic mixed acid (see Cleve's acid)
a-Naphthylamine, dms., frt. alld lb. .52 - —
b-Naphthylamine tech, flake, bbls., works lb. 1.60 - —
1-Naphthylamine-5-sulfonic acid (see Laurent's acid).
2-Naphthylamine-4,8-disulfonic acid (see Cassella acid).
2-Naphthylamine-1-sulfonic acid (see Tobias acid).
2-Naphthylamine-6-sulfonic acid (see Broenner's acid).
2-Naphthylamine-7-sulfonic acid (see F acid)
Naringin, fib dms lb. 8.50 —
Neatsfoot oil, 15° cold test, dms lb. .29 Nom.
20° cold test, dms. lb. .28 Nom.
30° cold test, dms. lb. .27 Nom.
Neocinchophen USP dms., frt. adjusted lb. 7.00 8.00
Neomycin sulfate fib dms, t-kilo basis activity gram. .18 - —
fib dms 100-999 gram lots, basis activity gram. .25 - —
Tech. fib dms gram. .13½ - —
Neopentylglycol dms, c.l. dlvd lb. .32 - —
dms. l.c.l. same basis lb. .33 - —
Neroi, dms lb 4.75 —
Neroli oil, NF, French, bots lb. 425.00 - 575.00
Tunisian, bots lb. 400.00 —
Neroline, cns lb 2.45 2.85
Neville and Winther's acid, dms., frt. alld lb. 1.50 - —
Niacinamide (see Nicotinamide).
Nickel acetate, bbls., dlvd. lb. .72 - .79
Nickel carbonate, bbls., dlvd lb. .83 - .90
Nickel chloride, bbls., dlvd. lb. .39¼ - .47½
Nickel formate, bbls., ton lots, frt. alld lb. .78 .79
Nickel metal electro cathodes, cs., works lb. .81¼ - —
Nickel nitrate, dms., frt. alld lb. .34½ - .36¼
Nickel oxide, black, bbls. lb. .92 - —
Green, bbls. lb. .91 - —
Nickel sulfate, bgs., c.l., dlvd lb. .30 - —
bgs., l.c.l., dlvd. lb. .30½ - .38
Nicotinamide, USP, 50-kilo, dms., frt. equald kilo. 5.75 - —
dms., smaller lots, same basis, kilo. 5.85 - 6.05
Nicotinamide hydrochloride, 50-kilo dms., dlvd kilo. 6.50 - 7.50
Nicotine sulfate 40% dealers 50-lb. dms frt alld lb. 1.20 - —
40% manufacturers 500-lb. dms., frt. alld lb. 1.05 - —
Nicotinic amide, USP (see Nicotinamide).
Niger seed, bgs. lb. 10¼ - —
Nikethamide, cbys. lb 5.00 —
Nitric acid 36° Be., cbys., c.l., works E 100 lbs. 5.75 —
cbys., t.c.l., works E 100 lbs. 6.05 6.85
38° Be., cbys. c.l. works E. 100 lbs 6.25 —
cbys., t.c.l., works E 100 lbs 6.55 7.35
40° Be., cbys., c.l., works E 100 lbs. 6.75 - —
cbys. t.c.l., works E 100 lbs. 7.05 7.85
Nitric acid, 42° Be., cbys., c.l., works E 100 lbs. 7.25 - —
cbys., t.c.l., works E 100 lbs. 7.55 8.35
58.5 to 68% HNO_3, tanks, works, 100% basis 100 lbs. 3.90 - —
94½ to 95½% HNO_3, tanks, works, 100% basis 100 lbs. 4.90 - —
Nitric acid CP, NF consumer, cbys., extra, c.l., works lb. .18½ - —
cbys extra t.c.l. works, lb. .20 - —
5-pint bots, extra, cs. c.l. same basis lb. .22½ - —
5-pint bots, extra, cs. t.c.l., same basis lb. .24 .25
dms, frt alld lb. .99 - —
4-Nitro-2-aminephenol, tech., paste, dms., t.c.l., works lb. .64 - —
m-Nitroaniline, cryst., dms., frt. alld lb 1.15 - —
Paste, dms., frt. alld., 100% basis 1.10 - —
o-Nitroaniline, flaked, dms. t.l., frt. alld lb. .49 - —
dms. t.l.l. frt alld lb .51 - —
o-Nitroaniline orange toner, kgs. . . 1.50 - —
p-Nitroaniline, c.l., t.l., dms., 20,000 lb. min., dlvd lb. .44½ - —
dms. t.c.l. same basis lb. .46½ - —
o-Nitroanisole tech. tanks frt alld. lb. .36 - —
p-Nitroanisole, tech., solid, dms., frt alld lb. .72 - —
Nitrobenzene, dbl dist, dms, c.l., frt. alld lb. .13 —
dms., c.l., frt. alld lb. .14 - —
tanks, frt. alld. lb. .17 - —
p-Nitrobenzoic acid, dms., c.l., t.l., works lb. .53 - —
dms., t.c.l., works lb. .54 - —
Nitrocellulose, ester-soluble, 30-35 cps., ¼ ½ ¾ 5-6, 15-20, 30-40, 60-80, 125-175 seconds, bbls., c.l., works lb. .39½ - —
bbls., t.c.l., same basis lb. .42½ - —
18-25 cps., bbls. c.l. same basis, lb. .41½ - —
bbls., t.c.l., same basis lb. .44½ - —
250-400, 600-1,000 seconds bbls., t.c.l., same basis lb. .44½ - .47½
Spirit soluble 30-35 cps., ¼ ½ seconds bbls. c.l. same basis lb. .44 - —
bbls., t.c.l. same basis lb. .47 - —
5-6 cps. 40-60 seconds, bbls., c.l. same basis lb. .43 - —
bbls., t.c.l., same basis lb. .46 - —

Denatured alcohol used in the manufacture of nitrocellulose is charged extra. Drums extra but returnable.

o-Nitrochlorobenzene dms. c.l., frt. alld lb. .15 —
dms., t.c.l. same basis lb .16 —
tanks same basis lb .13 —
p-Nitrochlorobenzene dms lb. .26 - .27
2-Nitro-p-cresol, tech., dms., t.l lb. .71 - —
dms., l.t.l. lb. .73 - —
Nitroethane, dms., c.l., dlvd, E lb. .28½ - —
dms., t.c.l., dlvd. E lb. .30 - —
tanks, dlvd E lb. .26 - —

Nitroethane prices West of Rockies are 1c. higher.

Nitrogen solutions, direct application, tanks, f.o.b works unit-ton 1.64 - —
Manufacturing type, same basis, unit-ton 1.32 - —

Nitrogen tetroxide, indust., tankcars, f.o.b. Hopewell, Va lb. .008 - —
Cyls., t.l., min. 5 tons, same basis lb. .07⅛- —
Cyls., l.c.l., t.l., same basis lb. .15 - —
Nitrogenous process tankage, bulk, works unit-ton. 4.50 - 5.00
Nitrogenous sewage sludge, bulk, f.o.b. Chicago, works. unit-ton. 3.35 - —
(The foregoing price is per unit NH_3, plus 50c. per unit a.p.a., bulk, f.o.b. producers' works, Chicago.)
Nitromethane, dms., t.l., dlvd. E lb. .26 - —
dms., l.t.l., dlvd. E lb. .27½- —
Nitromethane prices West of Rockies are 1c higher
a-Nitronaphthalene, bbls., frt. alld. lb. .31 - —
o-Nitrophenol, dms., works, frt. equald lb. .94 - —
p-Nitrophenol, dms., c.l., frt. alld. lb. .45 - —
dms., l.c.l., frt. alld lb. .47 - —
1-Nitropropane, dms., c.l., frt. alld. E. of Rockies lb. .28½- —
dms., l.c.l., same basis lb. .30 - —
tanks, same basis lb. .26 - —
1-Nitropropane prices West of Rockies are 1c. per lb higher.
2-Nitropropane, dms., c.l., frt. alld. E of Rockies lb. .18½- —
dms., l.c.l., same basis lb. .20 - —
tanks, same basis lb. .16 - —
m-Nitrotoluene tech., dms., frt. alld. lb. .50 - —
o-Nitrotoluene, dms., c.l., frt. alld lb .15 - —
dms., l.c.l., frt alld. lb. .16 - —
tanks, frt. alld. lb. .13 - —
p-Nitrotoluene, tech., cast, dms., c.l., works lb. .27½- —
dms., l.c.l., works lb. .28 - —
flake, dms., c.l., t.l., works lb. .27½- —
dms., l.c.l., works lb. .28 - —
m-Nitro-p-toluidine, dms. lb. 1.25 —
Nonylphenol, dms., c.l., frt. alld. lb. .22½- —
dms., l.c.l., frt. alld. lb. .23½- —
tanks, frt. alld lb. .20 —
Nonylphenol prices on shipments to Western States are 2c. higher
Noscapine, cns. oz. 8.00 - —
Nutmegs, East Indian, whole, bgs. lb. 1.00 - —
West Indian, bgs. lb. .85 - —
Nutmeg oil, USP, dist., East Indian, cns lb. 8.00 -12.00
West Indian, cns. lb 9.00 -12.00
Nux vomica, bls. lb .20 —
Powd., bbls, bxs. lb .20 .22

O

Ocher (see Iron oxide yellow, nat.).
Ocotea cymbarum oil, dms. lb. .44 - .47
Octane, indust., tanks, Bayonne, N.J gal. .20 —
1-Octanol, tech., dms., c.l., dlvd., Zone 1 lb. .41½- —
dms., l.c.l., dlvd, Zone 1 lb. .43½- .44½
tanks, dlvd, Zone 1 lb. .37½- —
Octyl alcohol, perfumers grade, bots. lb. 1.60 3.25
Octyl alcohol, tech, (see 1-Octanol, tech)
n-Octyl-decyl alcohol blend, tanks, dlvd lb. .19 - —
n-Octyl n-decyl phthalate, dms., c.l., frt. alld. E. of Rockies lb. .29½- —
dms., l.c.l., same basis lb. .31 - —
tanktrucks, 1,000-1,999 gals., same basis lb. .27½- —
tanktrucks, 2,000 gals., same basis lb. .27 - —
tert-Octylamine, dms., c.l., t.l., f.o.b. works lb. .54½- —
dms., l.c.l., same basis lb .55 - —
Octylphenol, bgs., c.l., works lb .22½- —
bgs., l.c.l., works lb .23 - —
tanks, works lb .21½- —
Octylphenol in dms., 11c. higher

OILS

Oil quotations are listed individually. For example, prices on Oil, coconut, may be found in the C's under Coconut oil.

Oiticica oil, liquid, dms. lb. .15¾- .16
tanks lb. .14¼- —
Oleic acid, dbl.-dist. (white), dms. lb. .18½- .21
tanks lb. .16 - —
S. D., dms. lb. .17½- .20
tanks lb. .15 - —
Oleum (see Sulfuric acid, fuming).
Olibanum gum, siftings, cs lb. .15 .20
Tears, cs. lb. 22 .30
Olibanum oil, bots. lb. 5.00 7.65
Extra fine, bots lb 8.00 9.50
Olive oil, edible, dms., spot, ex whse. gal. 2.30 - 2.40
Olivine, crude, works ton 12.00 —
20 mesh, works ton 15.00 - —
100 mesh works ton 20.00 - —
Opium, USP, cns., 25-lbs., f.o.b. works oz. 19.20 - —
gran., cns., 50 lbs., same basis oz. 21.65 - —
powd., cns., 50 lbs., same basis oz. 21.65 - —
Orange oil, expressed, USP, Calif., cns., dms lb. .70 - .90
Calif., sweet., cns., dms lb. .60 - —
Florida, cns., dms lb .40 - 45
Messina, cns. lb. 3.25 5.00
West Indian, bitter, cns., dms lb. 2.50 - 3.50
Orange peel, bitter, Haitian, bls lb. .18 .20
Sweet lb. .28 .30

ORANGE PIGMENTS

Orange pigment quotations are listed individually. For example, prices on Orange, chrome, may be found in the C's under Chrome orange.

Origanum oil, Spanish, cns. lb 1.80 2.30
Orris root, Florentine, bls. lb. .55 —
powd., bbls., bxs. lb. .65 - —
Verona, bls lb. .35 - —
powd., bbls., bxs lb. .45 - —
Orthoanisidine (see o-Anisidine).
Orthochlorobenzaldehyde (see o-Chlorobenzaldehyde)
Orthochloroaniline (see o-Chloroaniline).
Orthochlorobenzoic acid (see o-Chlorobenzoic acid)
Orthochloroparanitroaniline (see 2-Chloro-4-nitroaniline)
Orthochlorophenol (see o-Chlorophenol).
Orthocresol (see o-Cresol).
Orthocresotinic acid (see 2,3-Creosotic acid).
Orthodichlorobenzene (see o-Dichlorobenzene).
Orthonitroaniline (see o-Nitroaniline).
Orthonitrochlorobenzene (see o-Nitrochlorobenzene).
Orthonitroparachlorophenol (see 2-Nitro-4-Chlorophenol).
Orthonitrophenol (see o-Nitrophenol).
Orthonitrotoluene (see o-Nitrotoluene).
Orthophenetidine (see o-Phenetidine)
Orthophenylphenol (see o-Phenyl phenol).
Ortho-tertiary amylphenol (see o-tert-Amylphenol)
Orthotolidine (see o-Tolidine base).
Orthotoluidine (see o-Toluidine).
Ouabain, USP, bots. gram. 3.00 - 4.00
Ouricury, wax, crude, bgs. lb. .50 - .52
Refd., pure, bgs. lb. .53 - .55
Oxalic acid, bgs., c.l., works lb. .18 - —
bgs., 10,000-lb. lots, works lb. .19 - —
bgs., smaller lots, works lb. .20½- —
Oxalic acid in drums is priced ½c. per lb. higher.
b-Oxynaphthoic acid, pigment manufacture, dms., frt. alld lb. .912 - —
Dyestuff manufacture, dms., same basis lb. 1.03 - 1.14
Oxyquinolin sulfate, cns., 100-lb. lots, works lb 4.75 - 5.00
cns., smaller lots, works lb. 4.92 - 5.17

P

Palm oil, clarif., dms. lb. .14½- .15¼
tanks, New York lb. .11¾- —
Palm oil acid, double dist., dms. lb. .16½- .19
tanks lb. .14 - —
single dist., dms. lb. .16 - .18½
tanks lb. .13½- —
Palmarosa oil, cns. lb. 5.25 - 6.50
Papain, powd., bots. lb. 3.25 -10.00
Papaverine hydrochloride, nat. or syn., USP, cns., 25-oz. to 100-oz. lots oz. 5.00 - —
cns., smaller lots oz. 5.05 - 5.20
Papaverine sulfate, nat., or syn., USP, cns. oz. 7.10 - 7.35
Paprika, Bulgarian, bgs. lb. .34 - —
Hungarian, bgs. lb. .33 - —
Spanish, bgs. lb. .39 - —
Para-aminobenzoic acid (see p-Aminobenzoic acid)
Parachlorobenzoic acid (see p-Chlorobenzoic acid)
Paramethylphenylcinchonic acid (see Neocinchophen).
Paranitrobenzoic acid (see p-Nitrobenzoic acid).
Paratoluidinemetasulfonic acid (see p-Toluidine-m-sulfonic acid).
Para-aminophenol (see p-Aminophenol).
Parachlorophenol (see p-Chlorophenol).
Parachloro-orthonitroaniline (see 4-Chloro-2 nitroaniline).
Para-anisidin (see p-Ansidine).
Parachloraniline (see p-Chloraniline).
Parachlorobenzaldehyde (see p-Chlorobenzaldehyde).
Paracresol (see p-Cresol).
Paradibromobenzene (see p-Dibromobenzene).
Paradichlorobenzene (see p-Dichlorobenzene).
Paraffin, crude, scale, white, 123°-127°F., ASTM, tanks, refy. lb. .0655- .0680
Fully refd., 122°-124°F., ASTM, lb. .0765- —
125°-127°F., ASTM, tanks, refy. lb. .0765- —
130°-132°F., ASTM, tanks, refy. lb. .0765- —
132°-134° F., ASTM, tanks, refy. 135°-137°F., ASTM, tanks, refy. lb. .0765- —
AMP temperatures are an arbitrary 3°F higher than ASTM.
Paraffin oil, pale, 100-110 vis., at 100°F., tanks east coast refy gal. .17½- —
Paraffin wax (see Paraffin).
Paraformaldehyde, 91%, flake, bgs., c.l., frt. alld lb. .10 - —
bgs., l.c.l., frt. alld lb. .12 - .13
91%, powd., bgs., c.l., ex whse. lb. .1715- —
bgs., l.c.l., ex whse lb. .1865- —
Paraformaldehyde USP-X, fib. dms., c.l., f.o.b., works lb. .19 - —
fib. dms., 1,000-lb. lots, same basis lb. .20 - —
fib. dms., smaller lots, same basis lb. .21¼- —
Paraldehyde, tech., 98%, 55-gal. dms., t.l., dlvd. E lb. .14 - —
55-gal. dms., l.c.l., dlvd. E lb. .15½- —
tanks, dlvd. E lb. .11½- —
Paranitroaniline (see p-Nitroaniline).
Paranitrochlorobenzene (see p-Nitrochlorobenzene).
Paranitrotoluene (see p-Nitrotoluene).
Paranitrophenol (see p-Nitrophenol).
Paraphenetidine (see p-Phenetidine).
Paraphenylenediamine (see p-Phenylenediamine).
Paraphenylphenol (see p-Phenylphenol).
Para-tertiary-amylphenol (see p-tert-Amylphenol).
Para-tertiary butylphenol (see p-tert-Butylphenol).
Parathion ethyl, dms. frt. alld lb. .84 —
Parathion prices 2c per lb. higher in West.
Paratoluenesulfonamide (see p-Toluenesulfonamide).
Para toner, red, bbls. lb. 1.30 - —
Chlorinated, kgs. lb. 1.41 - —
Passion flower herb, bls. lb .35 .40
Patchouli oil, imp., cns. lb. 5.00 - 5.60
Peach kernel oil, USP (see Apricot kernel oil).

HARDWORKING JEFFERSON CHEMICALS

ETHANOLAMINES

MONO-
DI-
TRI-

MONOETHANOLAMINE

SPECIFICATIONS

Specific gravity, 20/20°C.	1.0170 min. 1.0190 max.
Boiling range, ASTM, °C.	
IBP:	166 min.
DP:	174 max.
Equivalent weight	61.0 min. 62.5 max.
Color, Pt-Co scale	15 max.
Odor at room temperature	Mildly ammoniacal

SELECT PROPERTIES

Boiling point, 760 mm.	170.5°C.
Flash point (open cup)	200°F.
Melting point	10.5°C.
Vapor pressure, 20°C	1 mm. Hg.
Weight, 20°C.	8.47 lbs./gal.

DIETHANOLAMINE

Specific gravity, 30/20°C.	1.0900 min. 1.0950 max.
Equivalent weight	104.0 min. 106.0 max.
Color, Pt-Co scale	20 max.
Diethanolamine, wt.%	98.0 min.
Monoethanolamine, wt.%	1.0 max.
Triethanolamine, wt.%	1.5 max.
Water, wt.%	0.15 max.

Boiling point, 760 mm.	269°C. (decomposes)
Flash point (open cup)	280°F.
Melting Point	28.0°C.
Vapor pressure, 20°C	<0.01 mm. Hg.
Weight, 30°C.	9.09 lbs./gal.

TRIETHANOLAMINE

	Standard Grade	99% Grade
Specific gravity, 20/20°C.	1.1220 min. 1.1300 max.	1.1240 min. 1.1270 max.
Equivalent weight	140.0 min. 145.0 max.	148 min. 150 max.
Color, Pt-Co scale	75 max.	75 max.
Triethanolamine, wt.%	85.0 min.	99.0 min.
Monoethanolamine, wt.%	0.5 max.	—
Diethanolamine, wt.%	15.0 max.	—
Water, wt.%	0.2 max.	0.2 max.
Odor	Not more than slightly ammoniacal	
Iron, ppm.	—	10 max.

Boiling point, 760 mm.	360°C.
Flash point (open cup)	365°F.
Melting point	21.2°C.
Vapor pressure, 20°C.	<0.01 mm. Hg.
Weight, 20°C.	9.37 lbs./gal.

Above products are clear and substantially free of suspended matter.

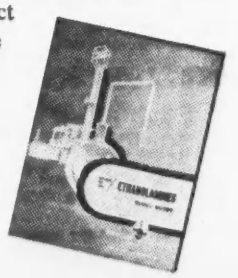
SHIPPING AND HANDLING

Jefferson ethanolamines are available in tank cars, tank wagons in certain areas, and 17E non-returnable steel drums of 470 (mono-), 490 (di-) and 520 (tri-) pounds capacity from the Port Neches plant or terminals throughout the country.

Handling and storage of ethanolamines is a straightforward operation. Storage tanks should be of carbon steel according to approved codes. In general, if low color amine is needed, stainless steel tanks and heating coils are preferable to carbon steel. Storage temperatures in excess of 120°F. should be avoided. Normal precautions to guard against excessive atmospheric moisture should be taken.

TECHNICAL INFORMATION

For detailed data on uses, properties, handling and other aspects of ethanolamines ask for our new ETHANOLAMINES Technical Brochure, or contact our technical service people . . . Jefferson Chemical Company, Inc., 1121 Walker Avenue, P. O. Box 303, Houston 1, Texas.



HOUSTON • NEW YORK • CHICAGO • CLEVELAND
CHARLOTTE • LOS ANGELES • SAN FRANCISCO

JEFFERSON CHEMICALS

120

Peacock blue, fugitive, 100% color strength, 250-lb. bbls., dlvd E of Rockies lb 1.00 —
Peacock blue price 1c higher W of Rockies.
Peanut meal, old process 45% bgs., f.o.b. mills ton 70.00 -72.00
solvent, same basis ton — —
Peanut oil, crude tanks f.o.b. mills lb .17½- —
Refd., dms. lb .22¾- .23
tanks lb .20¾- —
Pectin, dom., NF, citrus, powd., 100 kilos, f.o.b. shipt pt. kilo 4.52 —
Pelargonic acid, dms. c.l. dlvd E lb. .27½- —
ton lots, same basis lb .29½- —
tanks, same basis lb .25 - —
Penicillin, potassium, cryst., bulk, 1,000,000 units .018 - —
Penicillin procaine cryst., bulk, 1,000,000 units .020 —
Pennyroal oil, USP, imported, cns. lb 2.35 2.80
Pentachlorophenol, 50-lb bgs., c.l., t.l., works, frt equald lb. .21 - —
bgs., less than ton lots, same basis, lb .23 - —
bgs., c.l., t.l., 2,000 lb minimum, same basis lb. .22½- —
Pentachlorophenol in dms. 1c. higher.
Pentaerythritol, tech., bgs., c.l., dlvd lb .29 - —
bgs., l.c.l., dlvd lb .30 - —
Pentaerythritol, di- and tri-isomers (see Dipentaerythritol and Tripentaerythritol)
Pentane, indust., tanks, Tex., refy., gal. .14 —
Pentobarbital, dms., 100 lbs. or more lb 6.00 —
Pepper, black, Malabar, bgs. lb. .33½- —
Lampong, bgs. lb. .33½- —
Red, Funtuas, bgs. lb. .30 .31
Japanese, Hontuka, bgs. lb. .25 - —
Santaka, bgs. lb. .30 .31
Sudanese, bgs. lb. .40 - —
White, Muntok, bgs. lb. .51 - —
Peppermint leaves, dom., USP, bls., dms. lb No stocks
imp., USP, dms. lb. .85 .90
Peppermint oil, nat., dms. lb. 3.50 - 4.60
Redist., USP, dms. lb. 3.75 - 4.25
Perchloroethylene, dms., c.l. or t.l., dlvd lb .13½ —
dms., l.c.l., dlvd lb .13¾ —
tanks, dlvd lb .11¾ —
tanktruck 1,000 gal. min. dlvd lb .12¼ —
Peri acid, dry, bbls, frt. alld lb 1.60 —
Paste, bbls, frt. alld lb 1.55 —
Peru balsam, dms. lb 1.15 1.50
Persic oil, USP (see Apricot kernel oil)
Petitgrain oil, South American, cns., dms lb. 2.45 —
Petrolatum, NF, cream, dms., c.l., refy lb. .085 .09025
dms., l.c.l., dlvd lb. .11125 .11250
tanks, refy lb. .0625 .06375
NF extra amber, dms., c.l., refy, lb. .07625- —
dms., l.c.l., dlvd lb .1025- —
tanks, refy lb .07375- —
NF soft yellow, dms., c.l., refy lb. .07625- —
dms., l.c.l., dlvd lb .1025- —
tanks, refy lb .07375- —
USP lily white, dms., c.l., refy lb .07375 .09675
dms., l.c.l., dlvd lb .1175- .1225
tanks, refy lb .0875- —
USP, snow white, dms., c.l., refy, lb. .09625- —
dms., l.c.l., dlvd. lb. .1225- —
tanks, refy lb. .07375- —
Full tankwagons of petrolatum are ¼c more per lb. than tankcars
Petroleum pitch (see Asphalt, petroleum).

PETROLEUM PRODUCTS
Petroleum product quotations are listed individually. For example, prices on Petroleum mineral spirits, may be found in the M's under Mineral spirits, petroleum

Petroleum sulfonate, oil soluble, 60-62% sulfonic content, non-ret. dms., c.l., works lb. .16½ 18¾
non-ret. dms., l.c.l., works lb. 17½ 19
tanks, works lb 14½ 17
50-55% sulfuric content, non-ret. dms., c.l., works lb .16 - —
non-ret. dms., l.c.l., works lb .17 - —
tanks, works lb .13 - —
o-Phenetidine, dms., c.l., frt. alld. E lb .91 - —
dms., l.c.l., same basis lb .93 - —
p-Phenetidine, dms., c.l., frt. alld lb 1.05 —
dms., same basis lb 1.08 —
Phenobarbital, USP, dms., 100-lb., frt. alld lb 2.85 3.25
Phenobarbital-Sodium (see sodium phenobarbital)
Phenol, 90-92% (cresol 8-10%), non-ret. dms., frt. alld E of Rockies lb. .16½ —
non-ret. dms., l.c.l., same basis, lb. .17½ - —
tanks, same basis lb. .14½ - —
82-84% (cresol 16-18%), non-ret. dms., c.l., same basis lb. .16¼ - —
non-ret. dms., l.c.l., same basis, lb. .17¼ - —
tanks, same basis lb. .14¼ - —
39°C., or above, tar dist., non-ret. dms., c.l., same basis lb. .17¾ - —
non-ret. dms., l.c.l. lb. .18¾ - —
tanks, same basis lb. .15¾ - —
Phenol, USP, syn., dms., c.l., t.l., frt. alld. lb. .18¼ - —
dms., l.c.l., same basis lb. .20¼ - —
tanks, same basis lb. .16¼ - —
Phenolphthalein, USP or yellow, 250-lb. dm., 2,000 lbs. frt. alld lb 1.30 —
250-lb. dm., same basis lb 1.35 —
Phenothiazine drench, fib. dms., t.l., dlvd lb 46 —
fib. dms., ton lots, dlvd lb 49 —
NF, fib. dms., t.l., dlvd lb 45 —
fib. dms., ton lots, dlvd lb 48 —
Phenyl acetate, dms., 100-lb. lots, works lb .50 —
Phenyl salicylate (see Salol)
Phenylacetaldehyde, soln., 50% bots. lb 2.15 2.35
100% bots. lb 3.80 4.00
Phenylacetic acid, pure, cryst., cs. lb 1.25 1.75
di-Phenylalanine, dms., 1-kilo kit 65.00 —
l-Phenyl-3-carbethoxy pyrazolone-5, fib. dms., 200-lb. lots, dlvd E lb 3.45 —
fib. dms., smaller lots, dlvd E lb 3.80 —
N-Phenyldiethanolamine, dms., c.l., dlvd E lb .50 —
dms., l.c.l., dlvd E lb. .51½ —
tanks, dlvd E lb .47½ —
m-Phenylenediamine, dms., c.l., t.l., frt. alld lb 1.08 —
l.c.l., t.l., same basis lb 1.10 —
o-Phenylenediamine, coml, fib. dms., 100 to 1,000 lbs., works, lb. 1.70 1.80
p-Phenylenediamine, tech., dms., works lb 1.55 —
Phenylethanolamine, dms., c.l., works lb. .75½- —
dms., l.c.l., same basis lb. .76¼- —
Phenylethyl acetate, bots. lb 1.25 1.40
2-Phenylethyl alcohol, extra, dms. lb 1.14 1.50
Standard, dms lb 1.10 1.60
b-Phenylethylamine, dms., 20,000 lbs. or more, frt. alld lb 1.50 —
dms., smaller lots, frt. alld lb 1.70 1.85
Phenylethylphenyl acetate, bots. lb 4.00 4.25
Phenylglyconic acid (see Mendelic acid).
Phenylhydrazine, 97% 450-lb. dms. lb 1.45 —
1-Phenyl-3-methyl pyrazolone-5, fib. dms., 250-lb. lots, dlvd E 1.80 - —
fib. dms., smaller lots, dlvd E lb 2.10 - —
o-Phenylphenol, dms., l.c.l., works, lb 48 .50
p-Phenylphenol, bgs., c.l., works lb .38½- —
bgs., l.c.l., works lb .43 - —
Phloroglucinol, coml., fib. dms., works lb 6.49 —
CP, bots., works lb 17.75 - —
Tech., fib. dms., works lb 10.45 - —
Phloxin red toner (see Eosin red toner)
Phosgene, ref. cyls., works lb .15½- —
Phosphate defluorinated (see under D)
Phosphate rock, Curacao, Atlantic ports, New Orleans, ton 46.50 - —
Phosphate rock, Florida land pebble, run-of-mine, washed, dried, unground, 66-68%, b.p.l., bulk, c.l., mines, lb. ton n. 5.22 - 5.629
68-70%, b.p.l., bulk, c.l., same basis, short ton 6.08 - 6.089
70-72%, b.p.l., bulk, c.l., same basis, short ton 6.66 - 6.669
74-75%, b.p.l., bulk, c.l., same basis, short ton 7.56 - 7.569
76-77%, b.p.l., c.l., bulk, same basis, short ton 8.45 - 8.459
Above Florida prices are based on fuel oil at 2.52 per bbl. and labor at $2.72.
Phosphoric acid, food grade, 75%, chys., c.l., works, f.o.b., frt. equald 100 lbs. 7.00 —
chys., l.c.l., same basis 100 lbs. 7.25 7.75
tanks, t.w., works, 100 lbs. 5.60 —
80% chys., c.l., frt. equald 100 lbs. 7.85 —
chys., l.c.l., works, 100 lbs. 8.10 9.35
tanks, t.w., works, 100 lbs. 6.00 —
NF 85% chys., c.l., works, 100 lbs. 8.50 —
chys., l.c.l., works, 100 lbs. 8.75 9.00
tanks, t.w., works, 100 lbs. 6.65 —
Phosphorus, amorph., red, dms., t.l., works, lb. .55 —
dms., smaller lots, works, lb. .56 .57
White (yellow), solid, dms., c.l., works, frt. equald lb. .20 .20½
dms., l.c.l., works, frt. equald, lb. .21½- —
tanks, works, frt. equald, lb. .19 —
Phosphorus, oxychloride, dms., c.l., works lb. .14 —
dms., l.c.l., works lb. .15 —
tanks, works, frt. equald lb. .12½ —
Phosphorus, pentasulfide, powd., dms., c.l., works lb. .14½ —
dms., l.c.l., works lb. .14½ .15½
Solid, dms., c.l., works lb. .11½ —
dms., l.c.l., works lb. .12½ .13½
Phosphorus, pentoxide, dms., c.l., works lb. .1375- .1475
dms., l.c.l., works lb. .1475- .1675
Phosphorus, sesquisulfide, dms., cs., c.l., works lb. .38 —
dms., l.c.l., works lb .39 .40
Phosphorus, trichloride, dms., c.l., works lb. .14 —
dms., l.c.l., works lb. .15 —
tanks, works lb .12½- —
Phthalic anhydride, bgs., c.l., works, frt. equald lb. .13½- —
bgs., l.c.l., same basis lb. .16½- —
tanks, same basis lb. .15 - —
Phthalimide, 97-98%, dms., frt. alld lb .65 - —
Phthalocyanine blue toner, crystallizing type, bbls, dlvd. E. of Rockies lb. 3.60 - —
Crystal stable type, same basis lb. 3.25 - —
Aqueous dispersions, same basis lb. .68 - —
Polyolefin blue colors, same basis lb. 1.66 - —
Resinated, bbls, same basis lb 2.75 - —
Water dispersable, bbls., same basis lb 1.52 —
Phthalocyanine blue prices 1c. higher W. of Rockies
Phthalocyanine green, toner, all grades, bbls., works lb. 3.50 - —
Aqueous dispersions, same basis lb. .78 - —
Polyolefin green colors, same basis lb. 1.68 - —
Resinated, bbls. lb. 3.10 - —
Water dispersable, bbls. lb. 1.69 - —
Phthalocyanine green prices 1c higher W of Rockies
Phthalylsulfacetamide, fib. dms., 1,000-lb. lots or more lb 5.00 —
NF fib. dms. lb 5.20 —
a-Picoline, dms., c.l., works, frt. equald lb. .46 .48
dms., l.c.l., same basis lb. .46½ .49
tanks, same basis lb. .43 .46
b-Picoline, 98% dms., t.l., works, lb. .65 - —
dms., l.c.l., same basis lb. .65½- —
tanks, same basis lb. .60 - —
b,g-Picoline, 5°C., dms., c.l., works, lb. .32½- —
dms., l.c.l., works lb. .33 - —
g-Picoline, tanks, f.o.b. works lb. .60 - —
dms., c.l., t.l., same basis lb. .70 - —
dms., l.c.l., l.t.l., same basis lb. .73½- —
Picric acid, NF, bbls. lb. .85 - —
Tech., bbls lb .50 - —
Piment green B, kgs lb 1.55 - —
Pilocarpine hydrochloride, USP, bots., oz 4.75 5.25
Pilocarpine nitrate, USP, bots., vials, oz. 4.65 5.15
Pimento, Jamaican, bgs. lb. .69 .72
Mexican, bgs. lb. .60 - —
Pimento berry oil, NF, dms. lb 3.75 9.25
Pimento leaf oil, crude, cns. lb 2.50 2.60
Pine oil, dest. dist., dms., c.l., works lb. .15 —
dms., l.c.l., ex whse, New York, lb. .173 —
Steam-dist., dms., ex whse, New York lb .185 —
dms., dlvd lb .188 —
Pineneedle oil, Siberian (see Abies Siberica oil).
Pink root, bls. lb. 2.50 - —
Piperazine, anhyd., dms., c.l., frt. alld E lb 1.80 - —
dms., l.c.l., frt. alld E lb 1.85 - —
Piperazine citrate, 36% dms., 1,000 lbs. or more, frt. alld lb 1.33 - —
Piperazine dihydrochloride, 51%, dms., 1,000 lbs. or more, frt. alld lb. 1.29 - —
Piperazine hexahydrate, 44%, dms., 1,000 lbs. or more, frt. alld lb. .90 - —
dms., 200-900 lbs., frt. alld lb. .93 - —
Piperazine phosphate, 42%, dms., 1,000 lbs. or more, frt. alld lb. 1.11 - —
Piperidine, dist., 98% min., 5 dms. or more, l.c.l., f.o.b. works lb 2.65 - —
1-4 dms., same basis lb 2.70 - —
dms., c.l., t.l., frt. equald lb 2.55 - —
Piperonyl butoxide, dms. dlvd E lb 4.50 5.05

PITCHES
Pitch quotations are listed individually. For example, prices on Pitch, coaltar, may be found in the C's under Coaltar pitch.

Platinum, metal, works oz. 81.00 -85.00
Pleurisy root, bls. lb. .45 .50
Podophyllum resin, NF, dms lb 12.50 -15.50
Poke root, bls. lb. .19 .22
Polymyxin, bots., bulk, 50 billion units or more, 1,000,000 units, bulk, bots., 25-50 billion units, 1,000,000 units, bulk, bots., 1-25 billion units, 1,000,000 units, dms., 10,000-20,000-lb. lots, works, lb. .52 - —
.54 - —
.56 - —
.42 - —
.44 - —
dms., smaller lots, works, lb. .47 .49
Polyoxyethylene sorbitan tristearate, dms., 20,000-lb. lots, works lb. .42 - —
dms., 10,000-20,000-lb. lots, works lb. .44 - —
dms., smaller lots, works lb. .47 .49
Poppy seed, Argentine, bgs. lb. No stocks.
Dutch, bgs. lb. .12 - —
Danish, bgs. lb. .10 - —
Polish, bgs. lb. .11 - —
Turkish, bgs. lb. .11 - —
Potash, caustic, liq., 45% basis, dms., c.l., works, 100 lbs. 4.25 - —
dms., l.c.l., same basis, 100 lbs. 5.25 - —
tanks, same basis 100 lbs. 3.70 - —
Potash, reg., flake, 88-92%, dms., c.l., reg., flake, 88-92%, dms., c.l., same basis 100 lbs. 9.55 - —
dms., l.c.l., same basis, 100 lbs. 11.05 - —
solid, 88-92%, dms., c.l., works, 100 lb. 9.10 - —
dms., l.c.l., works 100 lbs. 10.60 - —
Potassium acetate, NF, 200-lb. dm., f.o.b. works, E lb. .33 - —
Potassium bicarbonate, USP, gran., dms. lb .22 - —
powd., dms lb .24 - —
Potassium bichromate, gran., bgs., c.l., t.l., works lb. .18 - —
bgs., l.c.l., works lb. .18½ 19¾
Potassium bichromate in dms. ¾c. higher.
Potassium bitartrate, NF, gran., powd., 100-lb. bgs., c.l., frt. equald lb. .37 - —
100-lb. bgs., 5,000 lbs., 1 shipt., same basis lb. .38 - —
100-lb. bgs., smaller lots, same basis lb. .40 —
Potassium borohydride, powd., dms., works lb 16.00 22.00
Pelletized potassium borohydride $1.25 per lb. higher in 1,000-lb. lots.
Potassium bromate, 200-lb. dms., c.l., frt. alld lb. .49 —
Potassium bromide, USP, gran., bbls, kgs lb. .39 .40
Potassium carbonate, dom., NF, gran., bbls., dms lb. .22 - .24
Dom., tech., powd., bbls., dms lb. .21 .22
Dom., calcinated, bgs., c.l., works, 100 lbs. 8.50 - —
bgs., l.c.l., same basis 100 lbs. 9.55 - —
Dom., hydrated, 83-85%, bgs., c.l., works 100 lbs. 7.10 - —
bgs., l.c.l., works 100 lbs. 8.15 - —
Potassium chlorate, cryst., dms., c.l., works lb. .12¼- —
dms., l.c.l., works lb. .13½- .14½
Powd., dms., c.l., works lb. .12¾- —
dms., l.c.l., works lb. .14 .15
Potassium chlorate, NF, cryst., dms., works lb. .12¼- —
2,000 lbs. or more, works lb. .16¾- —
NF, gran., 25-lb. metal dms lb. .36 - —
NF, powd., dms., 2,000 lbs. or more, works lb. .17¼- —
Potassium chloride, indust., 99.9% KCL, bulk, c.l., works ton 31.00 - —
bgs., c.l., works ton 36.00 - —
99.3% KCL, bulk, c.l., works ton 30.00 - —
bgs., c.l., works lb. 35.00 - —
USP, cryst., dms lb. 33.00 - —
USP, gran., dms. lb. .21 - .23
USP, powd., dms, lb. .24 - .26
Potassium chloride, agricultural (see Potassium muriate)
Potassium chromate, tech., dms., works lb. .50 .51
Potassium citrate, NF, gran., 250-lb. dms., f.o.b., works E lb. .41½- —
Potassium cyanide, dms., 20,000-lb. lots or more, dlvd. E lb. .42½- —
dms., 5,000-19,999-lb. lots, works lb. .43 —
dms., 2,000-4,999-lb. lots lb. .43½- —
dms., 1,999-lb. lots or less lb. .44½- .46½
Potassium dichromate (see Potassium bichromate)
Potassium ferricyanide, dms., ton lots, works lb. .50 —
dms., smaller lots works lb. .65 - —
Potassium ferrocyanide, dms., ton lots lb. .24½- —
dms., smaller lots lb. .29 - —
Potassium fluoborate, fib. dms., c.l., works lb. .30 - —
fib. dms., l.c.l., works lb. .31 - —
Potassium fluoride, dms., works lb. .36 - .37
Potassium gluconate, 100-lb. dm., f.o.b. works E lb. 1.67 —
Potassium guaiacol sulfonate, NF, dms lb 2.10 2.30
Potassium hydroxide, tech. (see Potash caustic)
Potassium hydroxide, USP, pellets, 100-lb. dms., 1 to 100-dm. lots lb 33½- .38
Potassium hypophosphite, NF, fib. dms., 1,000-lb. lots lb. 1.38 - —
Potassium iodide, USP, cryst., gran., 250-lb. dm., f.o.b. works lb. 1.55 - —
Potassium manure salt, min. 20% K₂O, bulk, c.l., works, unit-ton .17 - .1765
Potassium metabisulfite, gran., dms., lb. .16 - —
Powd., dms lb. .27 - —
Potassium muriate, standard, bulk, c.l., works, unit-ton .37 - .39
bagged, 60% minimum K₂O, same basis ton 27.20 -28.40
Potassium muriate, gran., bulk, c.l., works, unit-ton .40 - .41
bagged, 60% minimum K₂O, same basis ton 29.00 -30.20
Inside prices apply to material contracted for prior to July 1, 1961.
Outside prices apply to material contracted for after that date but also for delivery during the current month.

Potassium nitrate, NF, cryst., bbls., 20-ton lots 100 lbs. 17.00 - —
bbls., smaller lots 100 lbs. 18.00 -19.00
gran., bgs., 20-ton lots 100 lbs. 9.50 —
bgs., smaller lots 100 lbs. 11.00 -12.00
powd., bgs., 20-ton lots 100 lbs. 10.50 —
bgs., smaller lots 100 lbs. 12.00 -13.00
Potassium oxalate, neutral, tech., fine gran., powd., 300-lb. dm., f.o.b. works E lb. .32 - —
Potassium pentaborate, gran., dms., c.l., works ton 219.50 - —
dms., ton lots, ex whse 100 lbs. 17.48 - —
dms., smaller lots, ex whse 100 lbs. 18.73 - —
Powdered potassium pentaborate $10 per ton higher.
Potassium perchlorate, dms., c.l., works lb. .18½- —
dms., l.c.l., works lb. .19 - .20
Potassium permanganate, coml., kgs., works lb. .25 - .33
USP, dms., works lb. .29 - .35
Potassium pyrophosphate, tetrabasic, dms., works lb. .1475- .1575
Potassium prussiate, red (see Potassium ferrocyanide)
Potassium prussiate, yellow (see Potassium ferro-cyanide).
Potassium silicate, electrical grade, 30° Be., 1:2.0, dms., c.l., works 100 lbs. 6.50 - —
dms., l.c.l., 5-dm. lots or more, works 100 lbs. 7.25 7.65
tanks, works 100 lbs. 6.15 - —
40.5° Be., 1:2.1, dms., c.l., works, 100 lbs. 5.95 - —
dms., l.c.l., 5-dm. lots or more, works 100 lbs. 6.70 - —
tanks, works 100 lbs. 5.60 - —
Glass grade, bgs., c.l., works 100 lbs. 17.30 -18.00
bgs., l.c.l., works 100 lbs. 17.80 - —
Soln., 29° Be., 1:2.5, dms., c.l., works 100 lbs. 4.95 - —
dms., l.c.l., 5-dm. lots or more, works 100 lbs. 5.70 - —
tanks, works 100 lbs. 4.60 - —
Potassium silicofluoride, bgs., works lb .09½- .10
Potassium silicofluoride in drums, 0.4c. per lb. higher
Potassium stannate, dms., frt. alld. lb. .870 - .943
Potassium sulfate, min. 50% K_2O, agricultural, bulk, c.l., works, unit-ton .70½- .72½
Inside price applies to tonnage contracted for prior to July 1, 1961
Outside price applies to tonnage contracted for after that date but also for delivery during the current month
Potassium sulfate, NF, VII, cryst., dms. lb. .31 .33
NF, VII, gran., 400-lb. dm. lb. .18 - —
NF, VII, powd., 400-lb. dm. lb. .17 - —
Potassium sulfocyanate, NF, cryst., (see Potassium thiocyanate)
Potassium thiocyanate, NF, cryst., dms., works lb. .96 .98
Tech., dms., works lb. .77 .79
Potassium titanate, cns., c.l., works, lb. .16¼ - —
cns., 5-ton lots, works lb. .16½- —
cns., 1-ton lots or less, works lb. .16¾- —
Potassium-magnesium sulfate, basis 40% K_2SO_4 and 18% MgO, bulk works, base price, ton 13.45 - —
bulk, works, July forward, ton 14.00 - —
Potassium sodium tartrate, NF, gran. or powd., 250-lb. dms., c.l., works E lb 42½- —
250-lb. dms., 5,000-lb. lots, same basis lb. .43 —
250-lb. dms., same basis lb. .43½- —
Potassium-titanium fluoride, fib. dms., works lb. .39 .40
Potassium-zirconium flouride, fib. dms., c.l., works lb. .50 —
fib. dms., l.c.l., works lb. .52½- .55
Pregnenolone, bots. gram. No prices.
Pregnenolone acetate, bots. gram. No prices.
Procaine hydrochloride, USP, antibiotic grade, dms., 2,000-lb. lots, frt. alld lb. 2.10 2.25
Procaine hydrochloride, USP, ampule grade, dms., 1,000-lb. lots, frt. alld lb 2.40 - —
dms., 500 lbs. lb 2.45 - —
dms., 100 lbs. lb 2.50 - —
Progesterone, USP, bots. gram. No prices.
Pregnenolone acetate, bots. gram. No prices.
Propenyl guaethol, dms. lb. 24.30 27.00
b-Propriolactone, tech., dms., c.l., f.o.b. works lb. .47½- —
dms., l.c.l., t.l., same basis lb. .48½- —
tanks, same basis lb. .45 —
Propionic acid, syn. pure, dms., c.l., dlvd lb. .23¼- —
dms., l.c.l., dlvd. lb. .24¼- —
tanks, dlvd lb. .20¾- —
n-Propyl acetate, dms., c.l., dlvd, lb. .14¾- —
dms., l.c.l., dlvd lb. .16¼- —
tanks, dlvd lb. .12¼- —
n-Propyl alcohol, dms., c.l., dlvd lb. .14 .15
dms., l.c.l., dlvd lb. .15½- .16¼
tanks, dlvd lb. .11½- .12½
n-Propyl gallate, dms., 100 to 2,000-lb. lots, works lb 3.90 4.40
n-Propyl-p-hydroxybenzoate, USP, dms lb. 2.30 2.40
Propyl thiouracil, bots., 50 kilo lots or more kilo 55.00 —
bots., smaller lots kilo 55.10 -55.30
n-Propylamine, dms., c.l., dlvd lb 1.24 —
dms., l.c.l., same basis lb. 1.253 —
n-Propylene dichloride consumers, dms, c.l., dlvd, E lb. .0845- —
dms., l.c.l., same basis lb. .0995- —
tanks, same basis lb .07 —
Propylene dichloride prices in West 1c. higher, same basis
Propylene glycol, indust., dms., c.l., dlvd E lb. .15 - —
dms., l.c.l., same basis lb. .16¾- —
tanks, same basis lb. .12½- —
USP, dms., c.l., dlvd, E lb. .17 - —
dms., l.c.l., same basis lb. .18¾- —
tanks, same basis lb. .14½- —
Propylene glycol methyl ether, dms., c.l., dlvd lb. .20 —
dms., l.c.l., same basis lb. .21 - —
tanks, same basis lb. .18½- —
Propylene oxide, dms., c.l., dlvd E, lb. .17 —
dms., l.c.l., dlvd, E lb. .18½- —
tanks, dlvd, E lb. .14½- —
Psyllium seed, black, bgs. lb. .42 .45
Blonde, bgs. lb. .18 .20
Husks, bgs. lb. .45 .48
Pumice, dom., grd., coarse to fine, 0, ½, 1, 1½, 2, 3, bgs., ton lots lb. .03½- .04¼
bgs., smaller lots lb. .03¾- —
Pumice, imp., Italian, silk-screen, coarse, bgs., ton lots lb. .06½- —
fine, bgs., ton lots lb .04 —
sun dried, coarse, bgs. ton 60.00 —
fine, bgs. ton 60.00 -70.00
Pumpkin seed, bgs. lb .25 .26
Pyrethrins, syn. (see Allethrin)
Pyrethrum flowers, fine grd., 0.9% pyrethrins, bgs., ton, works lb. .50 —
Powd., 1.3% pyrethrins, bgs., ton, works lb. .71 - —

Pyrethrum liquid, 20/1 basis (3 grams pyrethrins per 100cc odorless base), dms., works	gal.	9.60	9.80
100/1 basis (10 grams pyrethrins per 100cc odorless base), dms., works	gal.	45.90	46.90
Pyrethrum oleoresin, dewaxed, 20%, dms., works	lb.	11.00	11.35
purif. 20%, dms., works	lb.	11.00	11.35
Pyridine, denat., dms. c.l., works and frt. equald	gal.	2.77	—
dms., l.c.l., same basis	gal.	2.80	—
Refd., 2° non-ret dms., c.l., same basis	lb.	.75½	—
dms., l.c.l., same basis	lb.	.76	.76½
tanks, same basis	lb.	.71	—
Potassium persulfate, dms., c.l., works	lb.	.17½	—
dms. l.c.l., works	lb.	.18	.21
Pyridoxine hydrochloride, USP, dms., f.o.b. works	kilo.	90.00	—
Pyrites, Canadian 48-50% S, mines, long-ton		4.50	5.00
Pyrocatechol (see Catechol)			
Pyrogallic acid, NF (see Pyrogallol).			
Pyrogallic acid tech. bbls., 100-lbs., f.o.b., works	lb	3.50	—
Pyrogallol, NF 100-lb dms	lb	3.50	—
Pyroxylin USP bots	lb	9.50	—

Q

Quassia chips	lb.	.10	—
Quicksilver (see Mercury metal)			
Quince seed, bgs	lb.	1.55	1.75
Quinidine sulfate USP, 1,000-oz. dm	oz.	.78½	—
Quinine, NF, 1,000-oz. dm.	oz.	.3750	—
Quinine bisulfate USP 1,000-oz dm.	oz.	.28	—
Quinine hydrochloride, 1,000-oz dm.	oz.	.3650	—
Quinine sulfate USP 1,000-oz dm.	oz.	.3150	—
Quinoline dms. c.l. frt. equald	lb.	.50¾	—
dms., l.c.l., same basis	lb.	.51¼	—
tanks, same basis	lb.	.50	—

R

R salt paste, dms., c.l., t.l., frt. alld., 100% basis	lb.	.98	—
Powd., dms., c.l., t.l., frt. alld, 100% basis	lb.	1.08	—
Rapeseed oil, dms	lb.	.17½	.17¾
tanks	lb.	.15¼	—
Rare earth oxalate, NF, 45-50%, bgs, works	lb	1.15	—
Rauwolfia serpentina root, powd., bbls., dms	lb.	1.00	1.20
Red carmine, No. 40 (see Carmine).			
Red oil (see Oleic acid)			

RED PIGMENTS

Red pigment quotations are listed individually. For example, prices on Red, lithol toner, may be found in the L's under Lithol red toner.

Red precipitate (see Mercuric oxide, red).			
Red toner, Lake C, alizarine, bbls., works	lb	1.30	—
Reserpine, cryst. bots	gram	1.25	—
Resorcinol, tech. grade, bgs., c.l., works, frt. equald	lb.	77½	—
bgs., l.c.l., same basis	lb.	.78½	—
Resorcinol in dms., 1c. per lb more.			
Resorcinol monoacetate, NF, dms.	lb.	2.50	—
USP, powd., dms., works	lb.	2.95	—
Rhatany root, bgs	lb	.14	.16
Rhodamine red toner, molybdated, PMA, kgs., works	lb.	6.00	—
Tungstated, PTMA works, kgs	lb.	6.60	—
Rhodinol, 5-lb cans	lb.	42.00	51.00
Synthetic	lb.	14.00	16.00
Rhubarb root, India, whole, bgs	lb.	.25	—
powd., bgs.	lb.	.35	—
Riboflavin USP fib. dms., kilo or more, dlvd	kilo.	36.00	—
Riboflavin-5-phosphate-sodium, fib. dms. kilo or more, dlvd.	kilo.	104.70	—
Rice bran oil, clarified, dms., l.c.l.	lb.	.15½	—
tanks, dlvd. E	lb.	.14	—
Ricinoleic acid (see Castor oil acids split).			
Rochelle salt (see Potassium-sodium tartrate)			
Roofing pitch (see Coaltar pitch, roofing).			
Rose oil, nat., Bulgarian, bots	lb.	1,152.00	—
Turkish, bots., otto	lb.	600.00	700.00
absolute	lb.	145.00	—
Rosemary oil, Spanish, NF, cns., dms	lb.	1.15	1.20
Spanish, tech., cns., dms	lb.	.80	.95
Rosin gum and wood (see Naval Stores in Protective Coatings market).			
Rotenone, fib. dms., works	unit-lb.	.10½	—
Resin, 25-45% fib dms., works.	unit-lb.	.10½	—
Rottenstone, bgs. 5-ton lots, exwhse	lb.	.03¾	—
bgs., ton lots, same basis	lb.	.04¼	—
Rubber solvent, petroleum, 115°F-245°F b.r., tankcars, New Jersey and New York	gal.	.19	—
Group 3	gal.	.13875	—
Houston Texas	gal.	.155	—
Rue oil, bots.	lb.	2.55	2.75
Rutin NF fib dms., 10 kilo lots.	kilo.	11.00	—
fib. dms., 5 kilo lots	kilo.	11.50	—
fib. dms., 1 kilo	kilo.	13.00	—
Ryania 100% powd., bgs., c.l., works	lb.	.22	—
bgs., l.c.l., same basis	lb.	.24	—

S

S acid, bbls., works	lb.	3.25	—
Sabadilla seed, activated, calc., 50%, ground with lime, bgs	lb.	.48	.70
Saccharin, calcium, fib dms., 1,000-lb lots, works	lb.	2.50	—
Saccharin, USP, gran., soluble, dms., 1,000-lb. lots	lb.	1.50	—
dms., smaller lots	lb.	1.60	—
USP, powd., soluble, dms., 1,000-lb. lots	lb.	1.55	—
dms., smaller lots	lb.	1.65	—
USP, powd., insoluble, dms., 1,000-lb. lots	lb.	1.53	—
dms., smaller lots	lb.	1.63	—
Safflower oil, indust. dms., New York.	lb.	.21	.2230
tanks, Atl. coast	lb.	.19	—
Edible, dms., same basis	lb.	.2560	.2660
tanks	lb.	.2260	—
Saffron, Mancha Superior, tins	lb.	19.50	—
Safrol, dms	lb.	.65	—
Sage, Dalmatian, bgs	lb.	.40	—
Greek, cns.	lb.	.15	—
Italian, cns.	lb.	.18	—
Sage oil, clary, bots.	lb.	11.00	12.00
Dalmatian, cns	lb.	2.85	3.25
Spanish, cns	lb.	1.25	1.75
Sal suds (see Soda ash).			
Salicylaldehyde, dms., c.l., t.l., f.o.b., plant, frt. equald	lb.	1.23	—
dms. l.c.l., same basis	lb.	1.25	—
Salicylamide, 100-lb. dms	lb.	1.00	—
Salicylic acid, tech., fib. dms., c.l., t.l., dlvd	lb.	.40¼	—
fib. dms. l.c.l., dlvd	lb.	.44¾	—
USP, cryst., 200-lb. fib. dms., 1,000 lbs. or more	lb.	.51¼	—
200-lb. fib. dms., less than 1,000 lbs	lb.	.54¼	—
100-lb. fib. dms., 1,000 lbs. or more	lb.	.53¼	—
100-lb. fib. dms. less than 1,000 lbs	lb.	.56¾	—
USP, pwd., 100-lb. fib. dms., 1,000 lbs. or more	lb.	.58¼	—
100-lb. fib. dms., less than 1,000 lbs	lb.	.61¾	—
Salol, NF, gran., bbls., kgs	lb.	1.20	—
Powdered salol, 25c per lb higher.			
Salt, rock, paper bgs., c.l. 100 lbs		1.09	—
Salt, table vacuum, common, fine, paper bgs. c.l. 100 lbs		1.34	—
Saltcake, dom. bulk, works, 100% Na_2SO_4 basis	ton	28.00	—
Saltpeter (see Potassium nitrate)			
Sandalwood, E. Indian chips, bgs.,	lb.	.55	.66
powd. fib dms	lb.	75	76
Sandalwood oil, ens.	lb.	27.00	30.00
Sarcosine, tech., tanks, f.o.b., works, frt equald	lb	1.03	—
	lb	No stocks.	
Sassafras oil, artif., dms	lb.	.45	—
Nat., dom., dms	lb	1.40	—
Savory oil, ens	lb	4.75	—
Schaeffer's salt paste, dms., frt alld 100% basis	lb.	.85	—
Powd., bgs. frt alld, 100% basis.	lb.	.95	—
Scopolamine hydrobromide, USP, 10 oz. lots, bots	oz.	13.00	—
Sebacic acid, CP bgs. c.l., works	lb.	.69½	—
bgs., l.c.l., works	lb.	71½	—
Purified, bgs. c.l., works	lb.	.65½	—
bgs., l.c.l., works	lb.	.67½	—
Seidlitz mixture, fib. dms., 5,000-lb. lots	lb.	.30½	—
fib. dms., smaller lots	lb.	.31	.39
Selenium, powd., 99½%, dms., dlvd.	lb.	5.75	—
Senega root, bls.	lb.	2.63	—
Senna leaves, Alexandria, whole and half, bls	lb.	.20	.22
siftings	lb.	.16	—
Tinneveley, No. 1, bls.	lb.	.26	.30
No. 2, bls	lb.	.18	—
No. 3, bls	lb.	.14	—
pods, bls.	lb.	.28	—
powd., bbls., bxs	lb.	.17	—
Serpentaria root, bls	lb.	7.00	7.50
Sesame oil, USP, dms., l.c.l	lb	.37	.38
Sesame seed Colombian, bgs	lb.	.15½	—
Lebanese, hulled, bgs	lb.	.19	—
Nicaraguan, hulled, bgs	lb.	.21	—
nat., bgs.	lb.	.15	—
Salvadorian, Nat. bgs	lb.	.16	—
Shellac, bleached bonedry, bgs., 1,500-lb. lots	lb.	.46	—
bbls., 1,500-lb. lots		.47	—
Bonedry shellacs prices for less than 1,500-lb lots 1c. per lb. higher for all packages.			
Shellac, bleached, refd., bgs., 1,200-lb. lots	lb.	.56	—
bgs., less than 1,200-lb. lots	lb.	.57	—
Shellac, orange, lemon No. 1, bgs., 10-bg. lots	lb.	.35	.36
lemon No. 2, bgs., 10-bg. lots.	lb.	.34	.35
superfine, bgs., 10-lb. lots	lb.	.32	.33
Shellac in 1 to 10-bg. lots 1c per lb more.			
Shingle stain oil, tar distillate, dms. c.l., works	gal.	37	—
dms., l.c.l., works	gal.	43	—
tanks, works	gal.	.35	—
Sienna pigment, burnt, paper bgs., l.c.l., works	lb.	.07¼	.19¾
Raw, paper bgs., l.c.l., works	lb.	.07½	.18
Silica, amorph, dry-grd 325 mesh bgs., c.l., works	ton	25.00	—
bgs. l.c.l. works ex whse	ton	45.00	55.00
Silica hard-quartz, 99½%, 325 mesh, bgs., c.l. works	ton	20.00	—
bgs., l.c.l., works	ton	25.00	—
99½% 140 mesh bgs., c.l. works	ton	15.00	—
bgs., l.c.l. works	ton	20.00	—
Silicon tetrachloride, tech., dms., c.l., works	lb.	.20	—
tanks, works	lb	.15	—
Silver bullion, ingots, cs., Troy	oz.	1.00¼	—
Silver cyanide bots. 1,000-oz. lots,	oz.	.94¾	—
bots. 500-oz. lots	oz.	.95¼	—
bots. 100-oz lots	oz.	.96¼	—
Silver nitrate, CP, cryst., bots., 1,000 to 4,000 oz., f.o.b. works	oz.	.67¼	—
bots. 250-500 oz., same basis.	oz.	67¾	—
USP granular silver nitrate 4c. per oz. higher.			
Silver proteinate, mild, USP, 16-oz. bots	oz.	1.46	—

Product selection simplified!

Anhydrous Sodium Metasilicate	Anhydrous Sodium Orthosilicate	Anhydrous Sodium Sesquisilicate	Pentahydrate Sodium Metasilicate
DRYMET®	**DRYORTH®**	**DRYSEQ®**	**CRYSTAMET®**
Most highly concentrated metasilicate . . . a source of controlled alkalinity. DRYMET puts extra value into your cleaning compounds. Blends easily with other alkalies, soaps, synthetics.	Ready-to-use, power-packed, highest pH detergent silicate. DRYORTH is an excellent heavy duty metal cleaner and laundry detergent. Other important applications.	A medium pH alkaline salt for fast, dependable work at low cost to the user. DRYSEQ has excellent penetrating and wetting-out properties.	Exceptionally pure hydrated metasilicate. Stable crystal structure and uniform spherical granules make CRYSTAMET ideal for compounding free-flowing mixtures. Available in three screen ranges.

Use Cowles Detergent Silicates to Fit Your Specific Application

Cowles CHEMICAL COMPANY
CLEVELAND 20, OHIO

Stocked in principal cities and available in mixed carloads and truckloads, Cowles detergent silicates give you complete versatility in compounding. Send letterhead request today for more information.

Snakeroot oil, Canada, crs ..... lb. 40.00 43.00
Soapbark, crushed, bls. ..... lb. .40 - —
Powd., bls. ..... lb. .50 - —
Whole, bls. ..... lb. .30 - —
Soda ash dense 58%, paper bgs., c.l., works 100 lbs 1.90 —
paper bgs. l.c.l. stock pts., 100 lbs 3.00 4.77
bulk c.l. works 100 lbs 1.60 —
Soda ash, light, 58%, paper bgs., c.l., works 100 lbs. 1.85 - —
paper bgs. l.c.l. stock pts. 100 lbs 1.55 —
bulk c.l. works 100 lbs 3.95 4.72
Soda caustic flake 76% dms c.l. works frt equald 100 lbs 3.20 —
liq. 50% sellers tanks works dry basis 100 lbs 2.80 —
50% rayon type sellers tanks works dry basis 100 lbs 2.90 3.00
Liq. 73% sellers tanks, works, dry basis 100 lbs. 3.00 —
liq. 73% rayon type sellers tanks, works dry basis lb 3.00 3.10
solid 76% dms c.l. works. 100 lbs 4.80 —
Soda sal conc bgs. c.l. works 100 lbs 2.50 —
bgs. smaller lots works 100 lbs 2.80 —
Sodium acetate anhyd bgs c.l., dlvd E lb. .14½ —
bgs., l.c.l. same basis lb 16½ —
NF 60% gran dms c.l. works, lb. 15½ —
dms. l.c.l. works lb. 17½ —
Sodium alginate, NF white powd., dom 300 lbs or more lb. 1.02 —
Sodium p-aminosalicylate dms. 100-lb lots or more, frt. adjusted lb 1.90 —
Sodium antimoniate bgs. c.l. dlvd. E lb 27½ —
bgs. l.c.l. dlvd E lb 29 —
Sodium arsenate 60% arsenic pentoxide 200 lb. dm less than ton lots, f.o.b. works lb. .24 —
ton lots or more same basis, lb. .23½ —
Sodium arsenite, 94% soluble pink powder 75% arsenious oxide, dealers 100-lb dms., ton lots or more, f.o.b., works lb. .18½ - —
1,600-1,900 dms. same basis lb. .19 - —
100-500 dms same basis lb. .20 - —
Sodium ascorbate dms., 100-kilos., dms., f.o.b. works kilo. 5.60 - —
less than 100-kilos kilo. 5.85 - —
Sodium benzoate tech., dms., c.l., t.l., frt. alld lb. .35 - —
dms. l.c.l. same basis lb. .39 - —
USP, 100-lb. dms., ton lots, same basis lb. .43 - —
100-lb. dms., 1,000-lb lots, same basis. lb. .45 - —
Sodium bicarbonate USP gran., bgs., c.l. works 100 lbs 2.95 - —
bgs l.c.l works 100 lbs 3.85 —
USP powd. bgs c.l., works, 100 lbs 2.55 - —
bgs. l.c.l. works 100 lbs 3.45 - —
Sodium bichromate gran., bgs., c.l., t.l., works lb. .13 —
bgs. l.c.l. works lb. .13½ - .14¾
Sodium bichromate in dms ¾c. per lb higher
Sodium bifluoride fib dms., c.l., works frt equald lb. .19½ - —
fib dms. l.c.l. same basis lb. .2025- —
Sodium bisulfate bulk c.l. works, 100 lbs 2.00 —
dms c.l., frt equald 100 lbs 3.00 3.60
dms l.c.l. frt equald 100 lbs 3.50 4.10
Sodium bisulfite anhyd., bgs., c.l., works 100 lbs 5.00 - —
bgs. l.c.l. works 100 lbs 5.45 - —
Soln. 35° bbls c.l., works 100 lbs 1.70 - —
bbls l.c.l works 100 lbs 2.20 - —
Sodium borate (see Borax)
Sodium borohydride powd., dms., c.l., works lb. 8.00 - —
dms., l.c.l., works lb. 11.75 -14.00
stabilized water soln., 12% NaBH, 100% basis, tanks, works lb. 7.50 —
dms., same basis lb. 11.50 -13.00
Pelletized sodium borohydride $1 per lb higher in 1,000-lb lots.
Sodium bromide USP gran dms., works lb. .40 - —
Sodium carbonate cryst. monohydrated (see Soda, sal)
Sodium carbonate, monohydrated, bgs., l.c.l. works 100 lbs 3.50 - —
bgs. c.l. works 100 lbs 3.10 —
Sodium carboxymethyl cellulose (see CMC).
Sodium chlorate cryst. 350-lb dms., c.l. works lb. .09 —
dms. l.c.l. works lb. 09½ - .10½
Sodium chlorate in 100-lb. dms., only, ¼c per lb higher
Sodium chloride tech (see Salt).
Sodium chloride USP gran. bgs. lb. .05 - —
Sodium chlorite tech. dms., c.l., works lb. 58 - —
dms. 20-dm lots or more works lb. 66 —
dms. smaller lots works lb. 70 .73
Sodium chloroacetate tech. dms., c.l. works lb. .27 —
dms. l.c.l. works lb. .28 —
Sodium chromate anhyd. fib dms., c.l. t.l. works lb. .14¾ —
fib dms l.c.l. works lb. .15¼ .16½
Tetrahydrate, bgs., c.l., t.l., works, lb. .1015- —
bgs. l.c.l lb. .1065- .1150
Sodium citrate anhyd. 200-lb dm., f.o.b., works E lb. .60½ - —
NF VIII gran bgs. c.l., same basis lb. .26 - —
USP XIV gran ngs. c.l., same basis lb. .26½ - —
Sodium citrate USP powd prices ½c higher
Sodium evanate dms. 1,000-lb lots, works lb. .85 —
dms smaller lots works lb. .90 1.10
Sodium cyanide briquettes or gran., 97 percent min., dms., dlvd. E of Rockies, 20,000-lb lots lb. .183 —
dms. same basis, 5,000 to 19,999-lb lots lb. .203 —
dms., same basis, 2,000 to 4,999-lb lots lb. .208 —
dms., same basis, 1,999-lb. lots and under lb. .218 —
Sodium cyclamate 100-lb dm f.o.b. works lb. 1.95 —
Sodium diacetate anhyd. (94.4% acetic acid, dms. c.l., works lb. .18 —
250-lb dms. c.l. works lb. 18¾ - —
Tech 33-35% acetic acid. dms., c.l. works lb. .15 —
250-lb dms c.l. works lb. 15¾ - —
Sodium dimethyl dithiocarbamate, 40% soln dms. c.l., t.l. frt alld., 100% basis lb 42 —
dms. l.c.l. t.l. same basis lb. .47 .52
tanks, same basis lb .38 —

Sodium ferrocyanide, bgs., 10-ton lots lb. .13½ - —
bgs. smaller lots lb. .14¾ - —
Sodium fluoride white, 97% fib, dms., c.l., works, frt. equald lb. .1390- —
fib dms., l.c.l., works, frt. equald lb. 1465- —
Sodium formate, bgs., c.l., works. 100 lbs. 7.05 - —
bgs. l.c.l., ex whse 100 lbs 8.65 - —
Sodium gentisate 100-lb fib dms. lb 5.50 - —
Sodium gluconate, refd., 250-lb dm., f.o.b works E lb .84 —
Tech., bgs., c.l., t.l., same basis lb. .29½ - —
Sodium hydride 50% soln in oil, dms. works lb. 1.25 2.50
25% soln in oil, dms. 50 lbs or less f.o.b shipping point lb 2.20 - —
dms. 50-99 lbs same basis lb 1.77 - —
dms. 100-999 lbs same basis lb 1.20 - —
Sodium hydride, dms., 1,000 lbs. or more same basis lb. .95 —
Sodium hydrosulfide (see Sodium sulfhydrate).
Sodium hydrosulfite dms c.l., frt alld lb. 23½ —
dms. l.c.l frt alld. lb. 25¼ - —
Sodium hydroxide, NF, pellets, 100-lb dms. 1 to 100 dm lots. lb .23½ .25
Sodium hydroxide, tech (see Soda, caustic).
Sodium hypophosphite NF dms. 1,000-lb lots lb. .99 - —
Sodium hyposulfite (see Sodium thiosulfate).
Sodium iodide, USP, 300-lb dms. f.o.b. works lb. 2.13 - —
Sodium lauryl sulfate, dms., c.l., dlvd lb. .20½ - —
dms., l.t.l., dlvd. lb. .21½ - —
tanks, dlvd lb .19½ - —
Sodium lignin sulfonate, bgs., c.l., works 100 lbs. 4.25 - —
l.c.l., bgs., works 100 lbs. 4.75 - 5.25
Sodium metabisulfite (see Sodium bisulfite).
Sodium metaborate, octahydrate, gran bgs c.l works ton 210.00 - —
bgs., ton lots, ex whse 100 lbs 8.30 - —
bags, smaller lots, ex whse, 100 lbs. 9.61 -11.61
Tetrahydrate, bgs. c.l., works ton 210.00 —
Sodium tetrahydrate, bgs., ton lots, ex whse 100 bgs. 14.83 - —
bgs., smaller lots, ex whse 100 lbs. 16.08 -18.08
Sodium metallic, bricks, c.l. works. lb. .21 —
Fused, 18,000-lb lots or more, works lb. .19½ - —
tanks, works lb. .17 - —
Sodium metallate, bbls. frt. alld. lb .62 - —
Sodium metaphosphate, bgs., c.l., f.o.b shipping pt 100 lbs. 11.10 - —
bgs., l.c.l., same basis 100 lbs 11.85 - —
dms., c.l., same basis 100 lbs 11.70 - —
dms., l.c.l. same basis 100 lbs 12.45 - —
Sodium metasilicate anhyd., bgs. c.l., works 100 lbs 5.70 - —
bgs., 6,000-19,900 lb. lots, works 100 lbs 6.05 - —
dms., c.l., works 100 lbs 6.20 - —
dms., l.c.l., works 100 lbs 6.55 - —
Pentahydrate, bgs., c.l., works 100 lbs. 4.45 - —
bgs., l.c.l., works 100 lbs 4.80 6.75
dms., l.c.l., works 100 lbs 4.95 —
dms., l.c.l. works 100 lbs 5.30 7.25
Sodium molybdate, anhyd., dms., works, frt. equald lb. 1.02 1.21
Cryst., dms., works, frt. alld lb. .84 .86
Sodium monoglutamate (see Monosodium glutamate)
Sodium monohydrate (see Sodium carbonate monohydrated)
Sodium naphthionate, bbls. lb. .77 - —
Sodium nitrate, dom., crude, bgs., c.l. works ton 48.00 - —
bulk c.l., works ton 44.00 - —
Imp., crude, 100-lb. bgs., c.l., Atl., Gulf, Pac., whse ton 48.00 - —
bulk c.l., same basis ton 44.00 - —
Sodium nitrite, USP, bbls., c.l. works, frt. equald 100 lbs. 9.40 - —
bbls., l.c.l., same basis 100 lbs. 11.40 - —
Sodium orthosilicate conc., dms., c.l. works 100 lbs 6.70 - —
dms., l.c.l., works 100 lbs 7.05 7.65
Hydrated, flake bbls. c.l., works 100 lbs 5.65 —
bbls. l.c.l. works 100 lbs 7.60 7.90
Sodium oxalate, 88% bgs., works 100 lbs. 12.35 - —
99% bgs. works 100 lbs 15.40 - —
Sodium para-aminobenzoate (see Sodium p-aminobenzoate)
Sodium para-aminosalicylate (see Sodium p-aminosalicylate)
Sodium pentachlorophenate briquets, dms., c.l., works, frt equald lb. .26 - —
dms. l.c.l. same basis lb. 27½ - .34
Pellets, dms. c.l., same basis lb. .26 —
dms. c.l. same basis lb. 27½ - .34
Powd. dms. c.l. same basis lb. .25 —
dms l.c.l. same basis lb. 26½ - .33
Sodium pentabarbital USP, dms., 100 lbs or more lb. 6.00 —
Sodium perborate NF tech., bgs., c.l., works lb. .137 - —
bgs., l.c.l., works lb. .152 - .215
Sodium peroxide, dms., c.l., t.l., dlvd E of Miss lb. .21½ - —
dms. l.c.l. same basis lb. .22 .22½
Sodium phenobarbital USP 100-lb. dms lb. 3.75 —
Sodium phenosulfonate, USP, IX, gran., dms lb. .52 .53
NF powd dms lb. .55 .56
Sodium phosphate, dibasic, anhyd., bgs c.l frt equald 100 lbs 8.10 —
bgs. l.c.l. same basis 100 lbs 8.50 9.55
Sodium phosphate, dibasic, cryst., bgs., c.l., t.l., frt. equald, 100 lbs. 4.75 - —
bgs. l.c.l frt equald 100 lbs 5.15 5.90
Duehydrate, bgs. c.l., frt equald, 100 lbs. 7.75 - —
bgs. l.c.l., same basis 100 lbs 8.25 - —
Monobasic anhyd bgs. c.l frt equald 100 lbs 9.15 —
bgs., l.c.l. same basis 100 lbs 9.55 -10.15
Tribasic anhyd bgs. c.l frt equald 100 lbs 9.15 —
bgs. l.c.l. frt equald 100 lbs 9.60 -10.20
Sodium phosphate in dms 60c to 80c higher than bgs
Sodium phosphite, USP, dried, powd., bgs. dms works lb. .19 .20½
Sodium picramate, tech., paste, dms. f.o.b works, frt. equald lb. .90 —
Sodium propionate, any quantity, dms. dlvd E of Rockies. lb. .34½ - —
Prices W of Rockies 3c per lb more
Sodium prussiate, yellow (see Sodium ferrocyanide)

Sodium pyrophosphate, acid, bgs., c.l., works, frt. equald, 100 lbs. 11.25 - —
bgs., l.c.l., same basis 100 lbs. 12.00 -12.50
Sodium pyrophosphate, ferric, dms., c.l., t.l., works lb. .36 - —
dms. l.c.l. works lb. .37 - .39
Tetrabasic, anhyd., bgs., c.l., works frt. equald 100 lbs. 7.38 - —
bgs., l.c.l., same basis 100 lbs. 8.13 - —
bulk, hopper cars, same basis. 100 lbs. 6.83 - —
Sodium salicylate USP dms., 1,000-lbs or more lb. .78½ - —
dms. less than 1,000 lbs. dms. lb. .81½ - —
Sodium sesquicarbonate bgs., c.l., works 100 lbs. 2.35 - —
l.c.l., dlvd. zone 1 ..... 100 lbs. 4.10 - 4.35
dlvd zone 2 ..... 100 lbs. 4.35 4.60
dlvd. zone 3 ..... 100 lbs. 4.75 - 4.90
Sodium sesquicarbonate, dlvd. zone 4 100 lbs. 5.35 - 5.60
Sales zones are (1) All states E. of Miss., R and N of south bound of Ky. and Va., Ala., La and Miss. south of 31°; Tex. E. of 100°; S of 31° Fla., also Me., N. H. and Vt. in which there are special county zones; Davenport Ia. and St Louis; (2) Ark. E. of 98° Ga., Iowa (except Davenport) Minn., Mo. (except St Louis) Neb E. of 98° N. C., S C., Tenn and Tex N of 31° and E. of 100° (except Wichita Falls); also Ala., La. and Miss. No of 31°; (3) Ark W of 96° Kan., Neb W. of 98° N D., Okla., S. D., Tex., W. of 100° (including Wichita Falls excluding El Paso); (4) Ariz., Colo., Idaho, Mont., Nev., N. M., Utah Wyo and El Paso, Tex.
Sodium sesquisilicate anhyd., bgs., c.l. t.l. works 100 lbs. 5.70 - —
dms. c.l. t.l. works 100 lbs. 6.20 - —
Hydrated, bgs., c.l., works 100 lbs. 5.00 - —
bgs. 6,000-19,900 lb. lots, works 100 lbs. 5.35 - —
dms., c.l., works 100 lbs. 5.50 - —
dms. 6,000-19,900 lb lots works. 100 lbs. 5.85 - —
Sodium silicate, liq., 40° Be., 1:3.2, turbid dms. c.l., works, 100 lbs. 1.65 - —
dms., l.c.l. works 100 lbs. 1.90 2.40
tanks, works 100 lbs. 1.20 —
47° Be 1:2.9 turbid, dms., c.l., works 100 lbs. 2.25 —
dms., l.c.l. works 100 lbs. 2.60 - 3.45
tanks, works 100 lbs. 1.90 - —
52° Be 1:2.4 turbid, dms., c.l., works 100 lbs. 2.65 - —
Sodium silicate, liq., 52° Be. 1:2.4, turbid, dms., l.c.l., works, 100 lbs. 3.00 - 3.50
tanks, works 100 lbs. 2.30 - —
Solid, 1:3.2 bgs. works ton. 67.50 - —
Sodium silicofluoride bgs., c.l., works, frt. equald lb. .07 - —
bgs., l.c.l., works, frt. equald. lb. .0775- —
Sodium silicofluoride in dms., 0.4c. per lb. higher.
Sodium stannate dms., works, frt. alld. E lb. .736 - .892
Sodium sulfa drugs (see Sulfa name).
Sodium sulfanilate bbls. works lb. .22 - —
Sodium sulfate NF VII. dried, powd., dms lb. .22½ - —
Tech., anhyd. bgs. c.l. dlvd E. ton. 56.00 - —
Tech., detergent, rayon grade, bgs., c.l., works ton. 38.00 - —
bulk, c.l., works ton. 34.00 - —
USP cryst. fib dms lb. .17½ - .18
Sodium sulfhydrate, flake 70-72%, dms. c.l. works, frt. equald lb. .07¼ - —
dms., l.c.l. same basis lb. .08¼ - —
Liq. 40-44% tanks works, 100% basis ton. 130.00 - —
Sodium sulfide flake, dms., c.l., works E., frt equald lb. .06 - —
dms. l.c.l., same basis lb. .07 - —
Fused, bbls. c.l. works, E., frt. equald lb. .05½ - —
bbls. l.c.l., same basis lb. .06½ - —
Sodium sulfite, anhyd., tech., bgs., c.l., works 100 lbs. 3.50 - —
bgs. t.l. same basis 100 lbs. 4.00 - —
Powd., bgs. c.l. works 100 lbs. 7.55 - —
bgs. l.c.l. same basis 100 lbs. 7.95 - —
Sodium sulfocyanide CP (see Sodium thiocyanate).
Sodium tetraborate (see Borax).
Sodium tetrasulfide, liq., 40%, dms., c.l., works frt equald lb. .04½ - —
dms., l.c.l. same basis lb. .05½ - —
Sodium thiocyanate, purified, cryst., 250-lb dms lb. .90 - —
Tech. anhyd. dms., 1 ton lots or more, works lb. .367 - —
dms., less than ton lots, works lb. .387 - —
Sodium thiosulfate NF cryst. bbls. lb. .13½ - —
Tech. anhyd. 100-lb bgs. c.l., t.l., frt. equald 100 lbs. 7.75 - —
100-lb bgs l.c.l. t.l., frt. equald 100 lbs. 8.15 - —
Sodium thiosulfate, photograde, 64-lb. bgs., c.l., t.l., frt. equald, lb. .0775- —
64-lb ngs. l.c.l. t.l., frt. equald lb. .0815- —
Tech., pentahydrate, photo grade, 100-lb bgs., c.l., t.l., frt. equald 100 lbs. 4.95 - —
100-lb bgs., l.c.l., t.l., frt. equald 100 lbs. 5.20 - —
Sodium titanate, ctns. c.l., works. lb. .14¼ - —
ctns. 5-ton lots works lb. .14½ - —
ctns., 1-ton lots or less, works lb. .14¾ - —
Sodium trichloroacetate, 90%, 100-lb dms. c.l. frt alld. E. lb. .35 - —
50-lb dms. c.l., frt. alld. E lb. .35½ - —
10-lb cns., c.l. frt alld E lb. .42 - —
Prices on Sodium trichloroacetate W. of the Rockies are 1¾c per pound higher.
Sodium tripolyphosphate, bgs., c.l., works, frt. equald 100 lbs. 7.73 - —
bgs., l.c.l., same basis 100 lbs. 8.48 - —
bulk, hopper cars, same basis, 100 lbs. 7.18 - —
Sodium tungstate, tech., kgs. dlvd. E lb. 1.32 - —
Sodium-ammonium phosphate, purif., cryst. dms. works lb. .52 - —
Sodium-carboxymethyl cellulose (see CMC).
Sodium-cinchophen (see Cinchophen-sodium).
Sodium formaldehyde sulfoxylate, dms. t.l., dlvd lb. .22½ - —
dms. l.t.l. same basis lb. .23 - —
Sodium-zirconyl citrate, fib dms., 1,000-lb lots or more works lb. .28 - —
fib. dms., smaller lots, same basis lb. .30 - —
Solvent naphtha, coaltar, high-flash, tanks, frt equald gal. .30 - .35½
Petroleum, straight, aromatic, 310°-360F b.r., 14°-16°C, m.a.p., tankcars, New Jersey and New York gal. .29 - —
Houston, Texas gal. .29 - —
355°-420°F b.r., 17°-18°C, m.a.p., tankcars, New Jersey and New York, gal. .30 - —
Houston, Texas .....gal. .30 - —

Solvent naphtha, partial aromatic, 211°-265°F b.r., 31°C m.a.p., tankcars, New Jersey and New York gal. .235 - —
286°-340°F, b.r., 22°C. m.a.p., tankcars, New Jersey and New York gal. .275 - —
319°-380°F, b.r., 27° C, m.a.p., tankcars, New Jersey and New York gal. .27 - —
322°-395°F. b.r., 28°C. m.a.p., tankcars, New Jersey and New York gal. .28 - —
Sorbitan monostearate, fib dms., 20,000-lb. lots, works lb. .33½ - 10,000 to 20,000-lb. lots, works. lb. .35½ - —
fib. dms., smaller lots, works lb. .38½ - .40½
Sorbitan tristearate, fib dms., 20,000-lb. lots, works lb. .34 - —
fib. dms., 10,000 to 20,000-lb lots, works lb. .36 - —
fib. dms., smaller lots, works lb. .39 - .41
Sorbitol, USP, reg., 70% aqueous, dms., c.l., works lb. .18 - —
dms. l.c.l. works lb. .19 - —
tanks works lb. 16¼ - —
powd., dms., c.l., works lb. .38½ - —
dms., 10,000 to 20,000 lb. lots, works lb. .40½ - —
Sorbitol, soln., comi., aqueous, dms., c.l., works lb. .26 - —
dms., l.c.l., works lb. .27 - —
tanks, works lb. .25¼ - —
Soya protein, chemically isolated, old process, bgs., c.l., works, lb. .23 - —
bgs. l.c.l., works lb. .23¼ - .23½
Chemically isolated, new process, bgs., c.l., works lb. .20 - —
bgs., l.c.l., works lb. .20¼ - .29½
Soybean meal, 44%, bulk, unrestricted, Decatur ton. 58.00 - —
Soybean oil, crude, tanks, Decatur, lb. .1030- —
Foots, soapstock acid 95%, tanks, New York lb. .06 - —
Alkali, refd., dms. lb. .1460- .1485
tanks lb. .1260- —
Clarified dms. lb. .1410- .1435
tanks lb. .1210- —
Refd., salad, dms. lb. .14½ - .14¾
tanks lb. .12½ - —
Soybean oil acids, dbl. dist., dms., lb. .17¼ - .18½
tanks lb. .14¾ - —
S. D., dms. lb. .16 - .18½
tanks lb. .13½ - —
Sparteine sulfate, crs., 100 oz. or more oz. .80 - —
Spearmint leaves, dom., bls lb. .75 - —
Spearmint oil, NF, dms. lb. 3.50 - 3.75
Sperm oil, bleached winter, 45°, dms. lb. .1750- .1850
tanks lb. .1550- —
Nat., winter, 45°, dms. lb. .1650- .1750
tanks lb. .1450- —
Spermaceti wax, blocks, cs. lb. .32 - .33
cakes, cs. lb. .3 .34
Spruce oil, crs., dms. lb 2.10 3.55
Squill, white, bls. lb. .16 - .18
Powd., bbls. bxs. lb. .17 - .20
St. John's bread, edible, bls lb. .17 - .20
Stannic chloride, anhyd., dms., works lb. .906 - .928
Stannous chloride, anhyd., dms lb. 1.129 - 1.384
Stannous chloride, hyd., crystal, 800 lbs. or more lb. .96 - —
Stannous oxide, dms., dlvd. lb. 1.682 - 1.812
Stannous sulfate, works lb. 1.217 - 1.257
Star root (see Helonias root).
Stargrass root (see Aletris root.)
Staves acre seed, bgs lb. .60 .61
Stearic acid, double pressed, bgs. lb. .16¾ - .19¼
Single-pressed, bgs. lb. .16¼ - .18¾
Triple-pressed, bgs. lb. .18½ - .21
Stoddard solvent, petroleum, tanks, east coast, New Jersey, New York gal. .18 —
tanks, Houston gal. .1475- —
tanks, group 3 gal. .12875- —
Stramonium leaves, bgs lb. .15 - .20
Streptomycin sulfate, bulk gram. .028 - .03
Strontium bromide, NF, cryst., gran. 150-lb dm., frt. equald lb. 1.00 - —
Strontium carbonate, pure dms. 3-ton lots or more, works lb. .35 - —
dms., 1-ton lots, works lb. .37 - —
Tech., dms., works lb. .19 - —
Strontium chromate fib dms. dlvd. lb. .48 - —
Strontium iodide jars, 25-lb lots lb. 3.57 - —
Strontium nitrate bgs. c.l., works 100 lbs. 11.00 - —
bgs. l.c.l. works 100 lbs. 12.00 - —
Strontium salicylate NF, dms lb 1.88 - —
Strontium sulfate, air floated, 90% 325 mesh bgs. works ton. 56.70 -66.15
Strophanthin G (see Quabain, USP)
Strophanthin K bots oz. 25.00 -25.50
Strophanthus seed, Kombi, biologically tested, bgs lb. 2.50 - 3.00
Styrax gum USP cs lb. 4.50 5.50
Styrene monomer polymer grade, 99.6%, dms., c.l., dlvd lb. .17 - —
dms l.c.l., same basis lb. .19 - —
tanks, frt. equald. lb. .132 - —
Tech. 99.2%, dms., c.l., dlvd. lb. .15 - —
dms., l.c.l., same basis lb. .17 - —
tanks, frt. equald lb. .1103- —
Above prices are escalated for each calendar quarter on the basis of cost of benzene in the range of 31c to 34c a gallon and petroleum refining labor
Styrolyl acetate, bots lb. 1.03 1.10
Succinic acid purif., cryst., dms., t.l., frt. alld lb. .62 - —
dms. l.t.l. same basis lb. .63 - .75
Succinic anhydride dms. c.l., t.l., dlvd lb. .51 - —
dms., l.c.l., same basis lb. .52 - —
Sucrose, refd white bgs. refy E. lb. .0915- —
Sucrose acetate isobutyrate, 90%, dms. t.l., dlvd lb. .33½ - —
dms., l.t.l., same basis lb. .35 - —
tanks, same basis lb. .31 - —
100%, t.l. dms. dlvd. lb. .35½ - —
l.t.l., dms., same basis lb. .37 - —
Sucrose octa-acetate, denaturing grade 100-200-lb. lots, bgs. l.c.l. works lb. 1.00 —
Sugar (see Sucrose)
Sugar cane wax dom. refd. slabs, 80-lb ctns., works lb. .60 .65
80 lb ctns. spot lb. .65 .75
Sulfabenzamide dms kilo 8.80 9.90
Sulfabenzamide-sodium dms kilo 9.00 10.10
Sulfacetamide USP fib dms kilo 6.61 6.83
Sulfacetamide-sodium USP, fib. dms kilo 8.15 9.25
Sulfadiazine, USP, microcrystals, dms kilo 23.35 24.45
USP powd. dms. kilo 22.60 23.70
Sulfadiazine-sodium USP dms kilo 24.80 25.90
Sulfaguanidine NF X dms kilo 5.50 6.60
Sulfamerazine, USP, microcrystals. dms kilo 23.50 —
Sulfamerazine-sodium, USP powd. dms kilo 24.80 25.90
Sulfamethazine USP XV, microcrystals, dms kilo 19.65 20.75
USP XV, powd., dms. ..... kilo 18.75 -19.85

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Sulfamic acid, cryst., dms., c.l., t.l., works 100 lbs. 16.00 - —
dms., l.c.l., t.t.l., works 100 lbs. 17.50 - 18.50
Gran., dms., c.l., t.l., works. 100 lbs. 14.75 - —
dms., l.c.l., t.t.l., works 100 lbs. 16.25 - 17.25
Sulfanilamide, NF, reg., 1,000 lb., fib. dms., frt. equald lb. 1.75 - —
NF, reg., smaller lots, fib. dms., frt. equald lb. 1.80 - —
Sulfanilamide, quinoxaline, veterinary, dms. kilo. 16.28 - —
Sulfanilic acid, tech., dms., c.l., frt. alld lb. .21 - —
dms., l.c.l., frt. alld lb. .23 - —
Sulfapyridine, USP XV, powd., bots., tins kilo. 15.45 - 16.55
Sulfapyridine-sodium, monohydrate, dms kilo. 16.55 - 17.65
Sulfathiazole, NF X, microcrystals, dms kilo. 6.25 - 6.90
NF X, powd., dms. kilo. 5.50 - 6.15
Sulfathiazole-sodium, NF X, dms., 1,000-lb lots or more lb. 2.35 - —
Sulfur, comi., flour, bgs., mines 100 lbs. 2.35 - —
bbls., mines 100 lbs. 3.30 - —
lump, bgs., mines 100 lbs. 2.25 - —
bbls., mines 100 lbs. 2.80 - —
Sulfur, crude, dom., bright, bulk, f.o.b. cars, mines long-ton. 23.50 - —
export, f.o.b. vessels Gulf ports long-ton. 25.00 - —
US and Canada f.o.b. vessels Gulf ports long-ton 25.00 - —
Domestic dark sulfur prices are $1 per long-ton lower
Sulfur, crude, imp., Mexican, bulk, filtered, f.o.b., vessel, Coatzacoalcos long-ton. 24.00 - —
Mexican dark sulfur price is $1 per long-ton lower
Sulfur, refd., flowers, NF, bgs., mines 100 lbs. 5.65 - —
bbls., mines 100 lbs. 7.00 - —
flour, light, bgs., mines 100 lbs. 5.25 - —
bbls., mines 100 lbs. 6.25 - —
Sulfur, refd., lump, bgs., mines 100 lbs. 4.95 - —
rolls, bgs., mines 100 lbs. 5.50 - —
bbls., mines 100 lbs. 6.25 - —
salt block, bgs., mines 100 lbs. 4.65 - —
virgin block, bbls., mines 100 lbs. 4.70 - —
Sulfur, rubbermakers, comi., reg., bgs., mines 100 lbs. 2.45 - —
bbls., mines 100 lbs. 3.70 - —
98-100%, pashing through mesh, bgs., mines 100 lbs. 2.55 - —
bbls., mines 100 lbs. 3.80 - —
Sulfur, refd., bgs., mines 100 lbs. 4.90 - —
bbls., mines 100 lbs. 6.05 - —
treated, 2.5% mineral oil, bgs., mines 100 lbs. 2.75 - —
bbls., mines 100 lbs. 4.00 - —
Sulfur dichloride, ret., dms., c.l., works, frt. equald lb. .05½- —
ret., dms., l.c.l., same basis lb. .06¾- —
tanks, same basis lb. .04½- —
Sulfur dioxide, liq., comi., cyls., works, frt. equald lb. .10 - .13
multi-unit cars, works lb. .0535- —
tanks, works lb. .045 - —
refrigeration, cyls., dlvd lb. .33 - —
Sulfur monochloride, 55-gal. non-ret., dms., c.l., frt. equald lb. .05½- —
dms., l.c.l., same basis lb. .06¾- —
tanks, same basis lb. .04½- —
Sulfuric acid, 60° Be, cbys., c.l., works 100 lbs. 2.00 - —
cbys., l.c.l., works 100 lbs. 2.30 - —
tanks, works ton. 18.60 - —
66°Be, cbys., c.l., works 100 lbs. 2.25 - —
cbys., l.c.l., works 100 lbs. 2.55 - 3.35
tanks, works ton. 22.35 - —
98%, tanks, works, East ton. 23.50 - —
99%, tanks, works, East ton. 23.70 - —
100%, tanks, works, East ton. 23.95 - —
Sulfuric acid, California works, tanks ton. 26.45 - —
CP, NF, consumers, cbys., c.l., frt. equald lb. .12¾- —
consumers', cbys., l.c.l., same basis lb. .14¼- .14¾
Sulfuric acid, CP, NF, 5-pt. bots., extra, cs., c.l., works, frt. alld. lb. .16¼- —
5-pt. bots., extra, cs., l.c.l., same basis lb. .17¾- .18¾
Sulfuric acid, fuming (oleum), 20% tanks, works ton. 25.00 - —
40%, tanks, works ton. 29.00 - —
65%, tanks, works ton. 39.50 - —
Superphosphate, run-of-pile, under 22% a.p.a., pulv., bulk, c.l., Baltimore unit-ton. .90 - .93
bulk, c.l., Carteret, N. J. unit-ton. .90 - .93
Superphosphate, triple, 48% or more a.p.a., pulv., bulk, c.l., East Tampa, Fla. unit-ton. 1.00 - —
bulk, f.o.b. vessel at Fla. unit-ton 1.05 - —
Sweet birch oil, USP, northern, cns lb. 4.00 - 9.50
USP, southern, cns lb. 2.00 - 3.05

T

2,4,5-T, dms., c.l., works, frt. equald, lb. 1.18 - —
dms., l.c.l., same basis lb. 1.25 - —
2,4,5-T, isopropyl ester, dms., c.l., works, frt. equald lb. 1.24 - —
dms., l.c.l., works lb. 1.29 - —
Talc, dom., fibrous, grd., bgs., c.l., works, New York ton. 28.00 - —
bgs., l.c.l., works ton. 31.00 - 36.00
Talc, dom., 99.5%, 325 mesh, bgs., c.l., works, New York ton. 31.00 - —
bgs., l.c.l., works ton. 34.00 - —
99.95%, 400 mesh, micronized, bgs., c.l., works ton. 38.00 - —
625 mesh, micronized, bgs., c.l., works ton. 80.00 - —
Dom., ord., Calif., grd., bgs., c.l., works ton. 34.00 - 39.50
Vermont, off-color, grd., bgs., c.l., works ton. 19.40 - —
bgs., l.c.l., works ton. 37.00 - —
Imp., Canadian, grd., bgs., c.l., mines ton. 20.00 - 35.00
tanks, works lb. .02⅞- .03⅛
Tall oil, crude, tanks, works lb. .03¼- .03½
Acid, refined, dms., c.l., works lb. .08¾- .10
tanks, works lb. .07½- .08¾
Dist., depending on grade, dms., c.l., works lb. .08¾- .09¾
tanks, works lb. .07½- .08½
Tall oil fatty acids, less 2% rosin acid, dms., c.l., works lb. .09¾- .11
tanks, works lb. .07¾- .09
2-6% rosin acid, dms., c.l., works. lb. .08½- .09
tanks, works lb. .06½- .07
Tallow, edible, tanks, dlvd. lb. .08⅛- —
Inedible, fancy, bleachable, tanks, lb. .05¾- —
fancy, guarant'd, bulk, f.o.b., steamer lb. .06¼- .06⅜
dms., f.a.s. lb. .0740- —
tanks, dlvd. lb. .05⅞- .06
No. 1, dlvd. lb. .05⅛- —
Prime, tanks, dlvd lb. .05⅜- —
special, tanks, dlvd lb. .05¼- —
Sulfonated, 25% bbls., l.c.l. lb. .08½- .08¾
50%, bbls., l.c.l. lb. .10½- .11

Tallow acids, dist., dms. lb. .13¼- .13⅝
tanks lb. .10¾- —
Hydrogenated, dms. lb. .15½- .16
Tallow oil, acidless, dms., c.l. lb. .14 - —
dms., l.c.l. lb. .16 - —
tanks lb. .12½- —
Tangerine oil, Florida, dms. lb. 4.25 - —
Tankage, animal, feeding, 9-11% ammonia, New York bulk, unit-ton. 4.75 - 5.00
Tannic acid, NF, fluffy, bbls., 1,000-lb. lots lb. 2.05 - —
bbls., smaller lots lb. 2.06 - 2.07
powd., bbls., 1,000-lb. lots lb. 1.95 - —
bbls., smaller lots lb. 1.96 - 1.99
Tech., dms lb. 1.05 - —
Tansy oil, dms lb. 6.60 - 8.00
Tar acid oil, 15-18%, dms., c.l., dms., l.c.l., same basis gal. .55½- —
tanks, same basis gal. .43½- —
25-28%, dms., c.l., frt. equald basis gal. .53½- —
dms., l.c.l., same basis gal. .62 - —
tanks, same basis gal. .50 - —
50-53%, dms., c.l., same basis gal. .75 - —
dms., l.c.l., same basis gal. .77 - —
tanks, same basis gal. .65 - —
Tar, coal (see Coaltar).
Tartar emetic (see Antimony potassium tartrate).
Tartaric acid, NF, 100-lb. bgs., c.l., frt. equald lb. .41 - —
bgs., 10,000 lbs. 1 shipt., same basis lb. .43 - —
bgs., smaller lots, same basis lb. .47 - —
Terpine hydrate, NF, cryst., powd., 100-lb. fib. dms lb. .70 - —
Terpineol, extra, dms lb. .50 - .60
Prime, dms lb. .40 - .50
Terpinyl acetate, extra, cns., dms. lb. .64 - .75
Prime, dms lb. .53 - .56
Terpinyl propionate, dms. lb. 1.65 - 1.70
Testosterone, USP, bots. gram. No prices.
Testosterone propionate, USP, bots. gram. No prices.
Tetrachloroethane, dms., works lb. .14½- —
Tetrasodium pyrophosphate (see Sodium pyrophosphate).
Tetrachloroethylene, tech. (see Perchloroethylene).
Tetrachloroethylene, USP, 55-gal. dms., c.l., t.l., works lb. .20½- —
dms., l.c.l., works lb. .22 - .23½
Tetraethyl orthosilicate, dms., c.l., dlvd. E lb. .63 - —
dms., l.c.l., dlvd. E lb. .66½- —
Tetraethyl pyrophosphate, 40%, cns., dms., frt. equald lb. .73 - —
Tetraethylenepentamine, dms., c.l., dlvd. E lb. .53½- —
dms., l.c.l., dlvd. E lb. .55 - —
tanks, dlvd. E lb. .51 - —
Tetraethylthiuram disulfide, tech., dms., frt. alld lb. 1.04 - —
Tetrahydrofuran, dms., c.l., t.l., works lb. .36½- —
dms., l.c.l., or l.t.l., works lb. .37 - —
tanks, works lb. .35 - —
Tetrahydrofurfuryl alcohol, dms., c.l., t.l., Memphis, Tenn. lb. .25½- —
dms., l.c.l., Memphis, Tenn. lb. .26½- —
dms., c.l., t.l., Newark, N.J. lb. .27½- —
Tetrahydrofurfuryl alcohol, dms., l.c.l., Newark, N. J. lb. .28½- —
tanks, dlvd. E. of Denver lb. .25 - —
tanks, dlvd. W. of Denver lb. .26 - —
Tetrahydrophthalic anhydride, dms., c.l., t.l., frt. alld. E lb. .39 - —
l.c.l., t.t.l., same basis lb. .41 - —
Tetrapotassium phosphate (see potassium phosphate).
Thallium metal, dlvd lb. 7.50 - 10.00
Thallium sulfate, 99%, bots., dlvd. lb 5.00 - 10.00
Theobromine, NF, fib. dms., 100-lbs., f.o.b., works lb. 4.10 - 4.15
Theobromine and sodium acetate, USP, fib. dms., 500-lbs. works lb. 6.45 - —
Theobromine, sodio-salicylate, NF, fib. dms., 500-lbs., works. lb. 3.80 - —
Theophyline, USP, anhyd., 100-lb. dms., frt. alld lb. 3.65 - —
Thiamine hydrochloride, USP, fib. dms., frt. alld. kilo. 27.00 - —
Thiamine mononitrate, USP, fib. dms., frt. alld. kilo. 27.00 - —
Thiocarbanilide, dms., ton lots lb. 74 - —
dms., less ton lots lb. 76 - —
Thiodiphenylamine (see Phenothiazine).
Thioflavin green toner, brilliant, molybdated, PMA, kgs., works lb. 5.20 - —
Tungstated, PTMA, kgs., works lb. 6.20 - —
Thioglycolic acid, refd., 55 gal. dms., ton lots, 100% basis lb. 1.15 - —
Thiosalicylic acid, 80%, dms., 1,000-lb., lots, works lb. 4.00 - —

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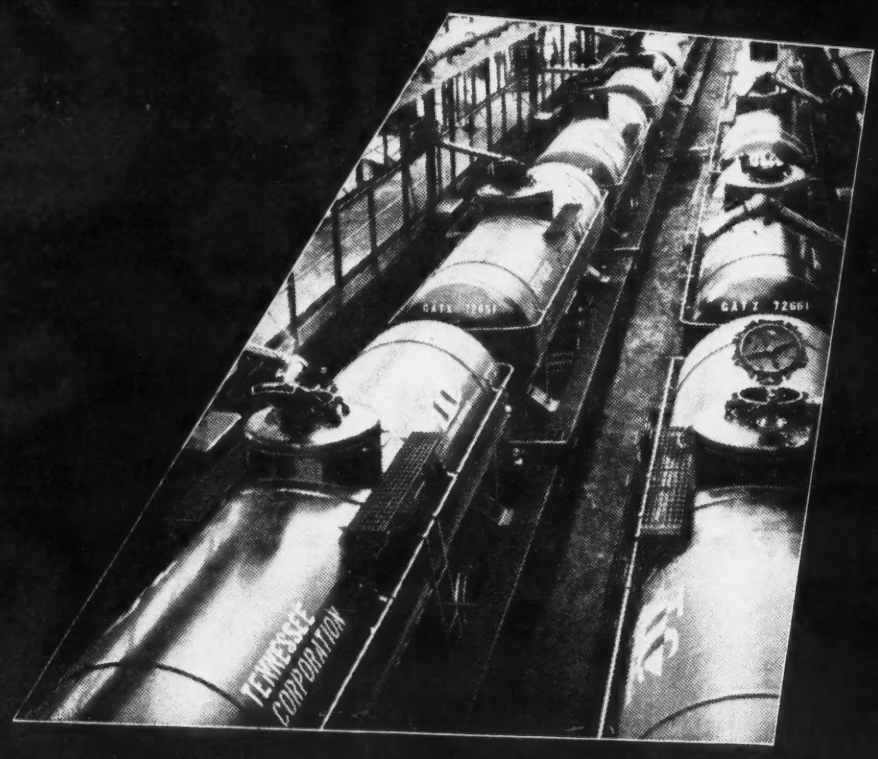

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Thiourea, tech., bgs., t.l., dlvd. Metropolitan area lb. .28½- —
bgs., ton lots, same basis lb. .31½- —
bgs., less than ton lots, same basis lb. .32½- —
Thorium nitrate, purif., fib dms., 100-lb lots or more, works lb 3.50 - —
dl-Threonine, dms. 25 kilos, works, kilo.115.00 - —
Thyme leaves French, triple sifted extra, bgs lb. .25 - —
Spanish, extra, bgs lb. .14 - —
reg., bgs. lb. .08 - —
Thyme oil, NF, red, cns., dms. lb. 3.25 - 3.60
NF, white, cns lb. 3.50 - 3.95
Tech., white, cns lb. .80 - 1.10
Thymol, fib dms., 25-lbs., f.o.b. works lb 2.45 —
Thymol iodide NF, dms. 100-lbs f.o.b. works lb 7.30 —
Timbo root (see Cube root).
Tin chloride (see Stannous chloride, anhyd.)
Tin crystals (see Stannous chloride, hydrous)
Tin metal (Straits) lb. 1.22 - —
Tin oxide (see Stannic oxide).
Tin sulfate (see Stannous sulfate).
Tin tetrachloride anhyd (see Stannic chloride anhyd.).
Titanium dioxide anatase, all grades, bgs., 30-ton c.l. min. frt. alld. lb. .25 —
20-ton, c.l., same basis lb. .25½- —
bgs., l.c.l., same basis lb. .26 - .26½
rutile, all grades, bgs., 30-ton c.l. min., frt. alld. lb. .27 - —
20-ton, c.l., same basis lb. .27½- —
bgs., l.c.l., same basis lb. .28 - .28½
Titanium dioxide, metallurgical, nat., bgs., c.l., f.o.b. Jacksonville, Fla. ton.180.00 - —
bgs., 5-ton lots, Niagara Falls, N.Y. ton.205.00 - —
bgs., ton lots, same basis ton.215.00 - —
Milled metallurgical titanium dioxide $7.50 per ton higher
Titanium dioxide-calcium pigment, 30% Ti O_2, reg. bgs., 30-ton c.l., f.o.b lb. .09⅛- —
20-ton, c.l., works lb. .09⅝- —
bgs., l.c.l., works lb. .09⅝- —
50% Ti O_2, high-tinting, dms., 30-ton c.l lb. .14⅛- —
20-ton, c.l., works lb. .14⅝- —
dms. l.c.l. lb. .14⅞ —
Titanium hydride, powd., dms., works lb 8.10 9.00
Titanium tetrachloride, tech. dms., c.l., works lb 26 —
dms., l.c.l., works lb 27½ 29
tanks, works lb 20 —
Tobias acid, dms., c.l., t.l., 20,000 min., f.o.b. plant, frt. alld E. lb. .81 - —
dms., l.c.l., t.t.l., 5,000-lbs.-19,999 lbs., same basis to .81½- —
dms., l.c.l., t.t.l., less than 5,000 lbs., same basis lb. .84 - —
For west coast delivery add 2c. per lb.
d-a-Tocopherols, NF mixer, conc. pure basis, bots. kilo.50.30 - —
d-a-Tocopheryl acetate, NF, conc. pure basis, bots kilo.91.80 - —
d-a-Tocopheryl acid succinate, cryst. bots kilo.81.70 - —
dl-a-Tocopherol, bots. kilo.74.25 -100.00
dl-a-Tocophheryl acetate, bots kilo.67.50 -91.00
25% dry, powd., bots. kilo.16.88 -18.38
33⅓ dry, powd., bots. kilo.22.50 -24.00
o-Tolidine base dry, kgs., 100% basis lb 1.55 —
Paste, kgs. 100% basis lb 1.50 —

TOLUOL
Toluol quotations, both coaltar and petroleum, may be found under Toluene.

Tolu balsam, cns. lb. 4.00 4.50
Toluene, coaltar, indust., or nitration, tanks, dlvd. E of Rockies gal. 25½- —
Petroleum, indust., tanks, dlvd. gal. 25½- —
Toluene prices, coaltar or petroleum source, East Coast metropolitan areas, Detroit, Cleveland, Chicago: tankcars, 25c. per gallon dlvd.
p-Toluenesulfonamide, powd., dms. t.l., works lb. .60 —
dms. t.l.l. same basis lb .63 —
Toluenesulfonic acid, 55-gal. dms., t.l., frt alld lb .16 —
1,000-lb or more, same basis lb .18 —
less than 1,000-lb., same basis lb. .23 —
tanks, same basis lb. .14 - —
Toluenesulfonic acid in 10-gal. dms. 2c per lb more.
p-Toluenesulfonic acid mononydrate, dms., c.l., or t.l lb .90 - —
dms. 125 lbs to t.l. lb 1.00 - —
m-Toluidine, dms. c.l., works, frt. alld lb .83 - —
dms., l.c.l., same basis lb .84 - —
tanks, same basis lb .82 - —
o-Toluidine, dms. c.l. works, frt. alld lb. .27 - —
dms., l.c.l., same basis lb. .28 - —
tanks, same basis lb. .26 - —
p-Toluidine, tech. flake, dms., frt. alld lb. .50 - —
Cast, dms. frt. alld lb. .45 - —
p-Toluidine-m-sulfonic acid, dms., works lb. .92 1.04
Toluidine red toner, deep shades, kgs., works lb 1.70 - —
Light shades, kgs. works lb 1.70 - —
2,4-Tolylenediamine, cryst., fib, dms., l.c.l., frt. alld lb 1.10 - —
Tonka beans, Angostura, prime f.o.b., N.Y. lb 1.35 1.50
Brazilian, Surinam, cs., same basis lb. 1.00 1.10
Totaquine, 100-oz lots, cns oz. .42 —
Toxaphene, dms. c.l., t.l., works. lb .22 —
dms. l.c.l. t.t.l. works lb .28 —
Tragacanth gum, No 1, ribbons cs lb 4.10 4.20
No 2, cs. lb 3.75 3.80
No. 3, cs. lb 3.40 3.65
USP powd. bbls. lb 1.05 1.15
Triacetin, dms. c.l., dlvd. E. of Rockies lb. .38 —
dms., l.c.l., same basis lb. .39½- —
tanks, same basis lb. .35½- —
Triallylamine, dms. c.l., dlvd lb .980 —
dms. l.c.l., dlvd. lb .995 —
tanks, dlvd lb .90 —
Tributyl citrate, tech., non-ret. dms. c.l. frt alld E of Denver lb. .41 - —
non-ret. dms., l.c.l., same basis lb. .43 - —
tanks, same basis lb. .38½- —

Tributyl phosphate, dms., c.l., works. lb. .52½- —
dms, l.c.l., same basis lb. .53½- —
tanks, same basis lb. .50 - —
Tributylamine dms., c.l., works lb. .67½- —
dms., l.c.l., same basis lb. .69 - —
tanks, same basis lb. .65 - —
Tributyrin dms. l.c.l. dlvd. lb. .69 - —
Trichloroacetic acid, tech., 300-lb. dms. c.l., f.o.b works lb .52 - —
USP, 100-lb dms. frt. equald lb. 1.25 - —
Trichlorobenzene dms. c.l. frt alld. & lb. .15 - —
dms., l.c.l. frt alld E. lb .16 - —
tanks, frt alld E lb 13¼ —
Trichlorobenzene prices in the West 1¾c. higher
1,1,1-Trichloroethane dms., c.l., dlvd. lb .13¼ —
dms., l.c.l., dlvd lb. .16 - —
tanks, dlvd lb. 12¼ —
1,1,2 Trichloroethane, dms., c.l., works lb .15½- —
dms., l.c.l., works lb. .16¼- —
tanks, works lb. .13½- —
Trichloroethylene dms. c.l., or t.l., dlvd lb. .13½- —
dms., l.c.l., dlvd. lb. .14¾- .15¼
tanks, dlvd. lb. .12 - —
Trichloroisocyanuric acid dms., c.l., t.l frt equald lb 65 - —
dms. l.c.l. same basis lb 75 - —
Trichlorophenoxyacetic acid (see 2,4,5-T).
Tricholine citrate, 65% soln., nonret. dms., 1 dm, frt. equald kilo. 3.10 - —
Tricresyl phosphate, coaltar, dms., c.l., dlvd lb. .35 —
dms., l.c.l., dlvd. lb. .36 —
tanks dlvd lb .32½- —
Petroleum, dms., c.l., dlvd lb. .35 —
dms., l.c.l. dlvd. lb. .36 —
tanks dlvd lb .32½- —
Tridecyl alcohol mixed isomers, dms., c.l., dlvd. E lb. .22½- —
dms., l.c.l., dlvd. E lb. .24 - —
tanks, dlvd. E lb. .20 - —
Triethanolamine, dms., c.l., dlvd. E. lb. .24½- —
dms. l.c.l., same basis lb. .26 —
tanks, same basis lb .22 —
Triethanolamine lauryl sulfate, dms., c.l., t.l. frt alld lb. .25½ —
dms. t.t.l. frt alld. lb. .26½ —
tanks, frt alld lb. .24½ —
Triethylamine dms. c.l., dlvd E. lb. .50 —
dms. l.c.l., same basis lb .51½- —
tanks, same basis lb .47½- —
Triethyl citrate, refd., tech., nonret dms. c.l., frt. alld E. of Denver lb. .44½- —
non-ret. dms., l.c.l., same basis lb. .46½- —
tanks frt alld E of Denver. lb. .42 - —
Triethyl phosphate dms. c.l. dlvd. lb .40½- —
dms. l.c.l., dlvd. lb .42 —
tanks, dlvd lb .38 —
Triethylene glycol dms. c.l. dlvd. E lb. .21 —
dms., l.c.l., dlvd. E lb. .22½- —
tanks, dlvd E lb. .18½- —
HP, tanks, dlvd. E lb. .20 - —
Triethylenetetramine dms., c.l., dlvd. E lb. .48½- .48¾
dms., l.c.l., same basis lb. .50 - .50¼
tanks, same basis lb. .46 —
Triisobutylene, tanks dlvd. lb. .08 —
Triisopropanolamine dms., c.l., dlvd. E lb. .23¼ —
dms. l.c.l., dlvd E lb. .24¾ —
tanks dlvd E lb. .20¾ —
Trimethylamine anhyd., cyls., l.c.l., frt. equald, 100% basis lb. .30 .305
tanks frt equald 100% basis. lb. .26 —
25-40% soln., dms., c.l., frt. equald, 100% basis lb. .35½- —
dms. l.c.l. frt equald 100% basis lb. .35½- —
tanks 100% basis, frt. equald lb. .26 —
Trimethylolpropane, dms., c.l., t.l., dlvd. E lb. .30½- —
dms., l.c.l., t.t.l., same basis lb. .31½- —
Trioxanes, pure, dms. c.l., t.l., works lb. .50 —
dms. l.c.l., works lb. .51½- —
Tripentaerythritol, ogs., c.l., t.l., dlvd E lb. .34 —
bgs., l.c.l., t.t.l., dlvd. E lb. .35 —
Triphenyl phosphate bbls., c.l., frt. equald lb. 41½- —
bbls. l.c.l. frt equald lb. 43½- —
Triphenylguanidine bbls. works lb. .90 —
Tripropylene dms. c.l. dlvd. E gal. 44 - —
dms., l.c.l. same basis gal. .54 - —
tanks, same basis gal. .28 —
Tripropylene glycol dms., c.l., t.l., frt alld E lb. .20½- —
dms. l.c.l. t.t.l. frt alld E lb. .22 —
tankcars and compartmented tankcars, frt alld E lb. .17½- —
tankwagon and compartmented, tankwagon, 1,000 gals., min. frt. alld. E lb. .18 - —
Tripropylene glycol prices 1c per lb higher in west
Trisodium phosphate (see Sodium phosphate tribasic).
dl-Trypophane, dms., 1 kilo, works kilo.154.00 - —
Tung oil, dms., New York lb. .30½- .31
tanks, imported lb. .28½- .29
tanks, domestic mills lb. .27½- .28
Tungsten metal powd. 2.0-2.5 microns, dms works lb 4.25 - —
Tungstic acid tech dms., 1,000-lb. lots, works lb 2.25 - —
dms. smaller lots, works lb 2.45 - —
Turpentine, gum (see Protective Coatings market Naval Stores)
Turpentine oil NF cns. dms lb .28 .50
Tyrothricin USP 1 to 5 kilos gram .50 —

U

Ultramarine blue, cobalt type, dry or pulp 250-lb bbls., dlvd. E. of Rockies lb. .33½- .38
Jobbing types, dry, bbls., same basis lb. .18 - .19
Regular types, dry bbls., same basis lb. .25 - .40½
Ultramarine blue prices 1c higher W. of Rockies
Umber pigment, burnt, American, dom. bgs., l.c.l., works lb. .08½- —
Raw, Amer., dom. bgs., l.c.l., works lb. .08½- —
Undecylenic acid 55-gal dms., f.o.b. works lb. 1.28 - —
Unicorn root, false (see Helonias root).
Unicorn root, true (see Aletris root).
Urea, 46% N, indust., bgs., c.l., t.l., f.o.b. plant ton.100.00 - —
Urea, feed grade, c.l., t.l., f.o.b. plant ton.95.00 - —
45% N, agricultural, bgs., c.l. f.o.b. plant ton.91.25 - —
Bulk, c.l., t.l., same basis ton.85.25 - —
Urea-ammonia liquor A, B, C & F grades, N basis, tanks, frt. equald ton.120.00 - —
37 grade, tanks, same basis ton.145.00 - —
Urethane, USP, dms., t.l., f.o.b., works lb .65 - —
dms. t.t.l., same basis lb. .70 - —
Uva-Ursi leaves, bls. lb. .14 - .15

V

Valerian root, Belgian bgs. lb. .32 - —
Indian, bgs lb .25 - —
dl-Valine, dms., 1 kilo, works kilo.37.00 - —
Vanadium pentoxide, tech. dms., works lb. 1.38 - —
Vandyke brown, bbls., l.c.l., works lb. .11 - —
Vanilla beans, Bourbon, tins lb. 6.40 - 6.65
Mexican cuts, tins lb. 7.85 - 8.25
whole, tins lb. 8.75 - 9.25
Vanillin ex lignin, 100-lb. fib. dms., 2,000-lb. lots or more lb. 3.00 - —
less than 2,000 lbs lb. 3.20 3.30
Venetian red, johbing, bgs., works. lb. .0525- —
Venetian red, 20%, bgs., works lb. .0575- —
25%, bgs., works lb. .0625- —
30%, bgs., works lb. .0650- —
35%, bgs., works lb. .0675- —
40%, bgs., works lb. .0725- —
Vetiver oil, Bourbon, cns lb.17.00 -17.25
Haitian, cns. lb.10.00 -12.00
Victoria blue toner, molybdated, PMA 250-lb. bbls., dlvd. E. of Rockies lb. 4.50 4.95
Tungstated, PTMA, 250-lb bbls., same basis lb. 5.55 - —
Victoria blue toner, bbls. prices 1c. higher W. of Rockies
Vinyl acetate monomer, zone 1, 55-gal. dms., c.l., dlvd lb. .1810- —
55-gal dms. l.c.l., dlvd lb. .1960- —
tanks, dlvd. lb. .1560- —
tanktrucks less than 4,000 gal., dlvd lb. .1610- —
Vinyl n-butyl ether, tech. dms., l.c.l. works lb. .50 - —
Vinyl chloride monomer tanks, works, min frt equald E. lb. .08 - —
Vinyl ether, USP, anesthesia, bots., 50cc. hospitals bot 1.12 - —
bots. 75cc. hospitals bot 1.56 - —
Vinyl ethyl ether tech. dms., c.l., works lb. .30½- —
dms. l.c.l., works lb. .31 —
tanks, works lb. .28½- —
Vinyl propionate monomer, dms., c.l., dlvd lb. .49 - —
dms. l.c.l., same basis lb. .50 - —
tanks, same basis lb. .47 - —
Vinyl trichloride (see Trichloroethane).
2-Vinylpyridine, 10 dms to tanks, works lb 1.20 - —
1 to 9 dms., works lb 1.35 - —
tanks, works lb 1.15 - —
Vinyltoluene, dms., c.l., f.o.b., dest. frt. paid, Zone 1 lb. .16½- —
dms., l.c.l., same basis lb. .18½- —
tanks, same basis lb. .14 - —
Zone 2 prices are 1c. per lb. higher.
Zone 1 is East of Rockies. Zone 2 is West of Rockies.
Viosterol in nat. vegetable oil, 1,000,000 D units per gram, bots., lots of 10 billion USP units 1,000,000 units 02½- —
Virginia type red, bbls. works lb 1.40 - —
Vitamin A acetate, dry, 500,000 units per gram, kilo lots kilo.47.50 - —
325,000 units per gram, same basis kilo.30.88 - —
250,000 units per gram, same basis kilo 23.75 - —
Dry vitamin A acetate in less than kilo lots, $1.25 to $2.50 per kilo higher
Vitamin A, liq. in oil, 1,000,000 A units per gram 1,000,000 units, .07 - —
Vitamin A palmitate, liq., 1,000,000-1,800,000 A units per gram 1,000,000 units. .07 - —
Vitamin B_1 (see Thiamine hydrochloride).
Vitamin B_2 (see Riboflavin and Yeast).
Vitamin B_{12}, cryst., USP (cyanocobalamin), 1-50 grams vials, tins gram.45.00 - —
Vitamin B_{12}, 0.1% vitamin B_{12}, USP, adsorbed on resin, 100 and 500-gram bots. 1-5 kilo dms gram. .57 - —
Vitamin B_{12}, oral grade solids in containers of 1 and 10 gram of B_{12} activity gram.52.00 - —
0.1% trituration of cryst. B_{12} with dicalcium phosphate or mannitol, 1-10 kilo.52.00 - —
Vitamin B_{12}, 0.1% trituration of cyanocobalmin, USP, with dicalcium phosphate or mannitol gm.52.00 - —
USP solution of cyanocobalamin (5,000 micrograms per cc.), 5-gram bots gram.52.00 - —
Vitamin B_{12}, 0.1% vitamin B_{12}, USP, adsorbed on gelatin, 100 and 500-gram bots on 1-5 kilo. dms. gram. .57 - —
Vitamin B_{12}, 0.1% cobalamin concentrate, NF, adsorbed on resin 500-gram bots. 1-5 kilo dms. frt alld gram. .57 - —
Vitamin B_{12}, 0.1% cobalamin concentrate in gelatin, 1-10 kilo. dms. frt alld gram. .57 - —
Vitamin C (see Ascorbic acid).
Vitamin D, (see Codliver and Fishliver oils, Calciferol and Viosterol).
Vitamin D dry, 850,000 units per gram, kilo lots kilo.42.50 - —
850,000 units per gram less than kilo lots kilo.45.00 —
Vitamin E (see a-Tocopherol and Wheat germ oil).
Vitamin H (see Biotin).
Vitamin K, active (see Menadione).
Vitamin K_1, 25-gram lots gram. 4.50 - —
Violet methyl toner (see Methyl violet toner).
VM&P naphtha (see Naphtha, VM&P, petroleum).

W

Wahoo root bark, bls lb. 2.10 - —
Warfarin 0.5% dms., 50-lb. lots, dlvd lb. 1.95 - —
dms. 25-49-lb. lots, New York or Chicago lb. 2.05 - —
Warfarin, 0.51%, dms., 5-24-lb lots, New York or Chicago lb. 2.15 - —
Watchung-type reds., bbls lb. 1.95 - —

WAXES
Wax quotations are listed individually. For example, prices on Wax, carnauba, may be found in the C's under Carnauba wax.

Wheat germ oil, 5-gal. dms. gal.12.30 - —
White lead (see Lead, white).
White mineral oil (see Mineral oil, white).
White pine bark, rossed, bls. lb. .21 - .22
White precipitate, USP, powd., dms., 100 lbs. f.o.b works lb. 5.50 - —
Whiting (see Calcium carbonate).
Wild cherry bark, thin, nat., bls lb. 22 - —
Wintergreen oil, USP nat. northern, cns lb 6.35 -17.50
USP, nat. southern cns lb 3.75 7.00
Wintergreen oil, syn. (see Methyl salicylate).
Witch hazel bark, bls lb. .20 - .25
Witch hazel leaves, bls. lb. .35 - .40
Wollastonite fine paint grade, bgs., c.l. works ton.41.00 - —
bgs., l.c.l., ex whse ton.51.00 - —
medium paint grade, bgs., c.l., works ton.29.00 - —
bgs., l.c.l., ex whse. ton.39.00 - —
Wood alcohol (see Methanol).
Wood oil (see Tung oil).
Woolfat crude (see Degras).
Woolfat USP (see Lanolin).
Wormseed Levant bgs lb. 2.50 - —
Wormseed oil (see Chenopodium oil NF).
Wormwood oil, cns lb. 4.75 - —

X

Xylene, coaltar, indust., tanks, works:
Bethlehem, Pa. gal. .29 - —
Birmingham dist. gal. .29 - —
Chicago dist. gal. .28½- —
Cleveland dist. gal. .29 - —
Geneva, Utah gal. .29 - —
Johnstown, Pa. gal. .29 - —
Lackawanna, N.Y. gal. .29½- —
Lone Star, Tex gal. .27 - —
Lorain, Ohio gal. .29 - —
Middletown, Ohio gal. .30 - —
Minnequa, Col gal. .29 - —
Philadelphia dist. gal. .29 - —
Pittsburgh dist. gal. .29 - —
Sparrows Point, Md. gal. .29 - —
Syracuse gal. .29 - —
Terre Haute, Ind. gal. .29 - —
Youngstown, Ohio gal. .29 - —
Xylene, petroleum, indust., tanks, f.o.b. works:
Bayonne, N.J. gal. .29 - —
Baytown, Tex. gal. .27 - —
Charleston, S.C. gal. .29 - —
Chicago, Ill gal. .28½- —
Detroit, Mich., dlvd. gal. .27½- —
Houston, Tex. gal. .27 - —
Philadelphia, Pa. gal. .29 - —
Providence, R.I. gal. .30 - —
Sewell's Point, Va. gal. .28 - —
Wood River, Ill gal. .28½- —
m-Xylene, 95%, dms., c.l., f.o.b., Richmond, Calif lb. .21 - —
dms., l.c.l. f.o.b., Richmond, Calif lb. .22 - —
tanks, frt. alld. lb. .19 - —
o-Xylene, dms., c.l., works lb. .08 - —
dms., l.c.l., works lb. .09 - —
tanks, works lb. .06 - .06⅛
p-Xylene, dms., c.l., works lb. .20 - —
dms., l.c.l., works lb. .21 - —
tanks, frt alld lb. .1645- —
Xylenol, cryst. 45°-47°C., m.p., dms., l.c.l., works, frt. equald lb. .23 - —
56°-58°C., m.p., dms., l.c.l., works, frt. equald lb. .33 - —
60°-62°C., m.p., dms., l.c.l., same basis lb. .40 - —
Xylenol fraction, b.r. 7°-9° C., dry above 227° C., dms., c.l., same basis gal. 1.25 - —
dms., l.c.l., same basis gal. 1.30 - —
tanks, same basis gal. 1.05 - —
b.r. 7°-9° C., dry at or below 227° C., dms. c.l. same basis. gal. 1.35 - —
dms., l.c.l., same basis gal. 1.40 - —
2,4-Xylidine, tech., dms., frt. alld. lb. 1.15 - —
2,5-Xylidine, tech., dms., frt. alld, lb. 1.20 - —
Xylidines, mixed, o-m-p, dms., c.l., or t.l., works lb. .39 - —
dms., l.c.l. same basis lb. .41 - —
tanks, same basis lb. .38 - —

XYLOL
Xylol quotations, both coaltar and petroleum, may be found under Xylene.

Y

Yara yara oil, cns. lb. 2.15 - 3.05
Yeast, brewers, debittered, USP XV, Saccharomyces dlvd lb. .27 - —
Yeast, primary, USP XV, 150 mcg. B_1 per gram, 100-lb. dms lb. .47 - —
270 mcg., B_1 per gram, 100-lb. dms lb. .52 - —
300 mcg., B_1 per gram, 100-lb. dms lb. .56 - —
900 mcg. B_1 per gram, 199-lb. dms lb. .60 - —
Torula, USP dlvd. lb. .18 - —

YELLOW PIGMENTS
Yellow pigment quotations are listed individually. For example, prices on Yellow, benzidine, may be found in the B's under Benzidine yellow

Yerba santa leaves, bls. lb. .40 .45
Ylang Ylang oil, Bourbon, bots lb. 7.00 -22.00
extra, bots lb.24.00 -33.00
Yohimbine hydrochloride, bots., tins. oz. 3.75 - 4.25

Z

Zein, 50-lb. bgs., c.l., t.l., f.o.b. works lb. .37 - —
50-lb. bgs., smaller lots, f.o.b. works lb. .41 - .44
Zinc acetate, NF, VIII, dms lb. .53 - —
Tech., dms., l.t.l., works lb. .2950- —
Zinc borate, bgs., 1,000 lbs or more, works lb. .25 - —
bgs. less than 1,000 lbs., same basis lb. .27 - —
Zinc chloride, NF, gran., dms lb. .42 - —
NF, precip., powd., dms lb. .26 - —
Tech., soln. 50%, dms., c.l., works 100 lbs. 5.80 - —
dms., l.c.l., works 100 lbs. 6.40 - —
tanks, works 100 lbs. 5.15 - —
Zinc chloride, tech., fused, dms., c.l., works 100 lbs.10.70 - —
dms., l.c.l. works 100lbs.11.20 - —
Tech. gran., fib. dms., c.l., works 100 lbs.11.45 - —
fib dms. l.c.l. works 100 lbs.11.95 - —
Zinc chromate, bbls., dlvd. lb. .29 - —
Basic bbls., dlvd. lb. .34 - —
Zinc cyanide, dms., 1,000-lb. lots or more, works lb. .55 - —
dms. smaller lots, works lb. .57 - —
Zinc dust, coml., bbls., c.l., works lb. .16 - —
Pigment, bbls., c.l., works lb. .15½- —
bbls., l.c.l., works lb. .17¼- —
Zinc fluoride, bbls., works lb. .49 - .50

Zinc hydrosulfite, dms., c.l., frt. alld	lb.	.21½	—
dms., l.c.l., frt. alld.	lb.	.23½	—
Zinc metal, prime western, slabs, E. St. Louis	lb.	.12	—
Prime western slabs, New York.	lb.	.12½	—
Zinc naphthenate liq. 8% Zn., dms., frt. alld	lb.	.27	—
10% Zn., dms., frt. alld.	lb.	.33	—
Zinc nitrate, tech., flake, 100-lb. fib. dms., l.c.l.	lb.	.16½	—
300-lb. fib. dms. l.c.l.	lb.	.14½	—
300-lb. fib. dms., c.l.	lb.	.14	—
Zinc oxide pigment, American process, lead-free, bgs., c.l., f.o.b. works	lb.	.12½	—
bgs., l.c.l., 10 tons or more, same basis	lb.	.13	—
bgs., l.c.l., smaller lots, same basis	lb.	.13½	—
Leaded, 35%, bgs., c.l., mills, same basis	lb.	.14	—
bgs., l.c.l., 10 tons or more, same basis	lb.	.14½	—
Leaded, 50%, bgs., c.l., same basis	lb.	.14½	—
bgs., l.c.l., 10 tons or more, same basis	lb.	.15	—
Zinc oxide, pigment, French process, green seal, bgs., c.l., f.o.b works	lb.	.14½	—
bgs., l.c.l., 10 tons or more, same basis	lb.	.15	—
bgs., l.c.l, smaller lots, same basis	lb.	.15½	—
red seal, bgs., c.l., same basis.	lb.	.14	—
bgs., l.c.l., 10 tons or more, same basis	lb.	.15	—
bgs., l.c.l., smaller lots, same basis	lb.	.15½	—
white seal, bgs., c.l., same basis	lb.	.14¾	—
bgs., l.c.l., 10 ton or more, same basis	lb.	.15½	—
bgs., l.c.l., smaller lots, same basis	lb.	.15¾	—
Zinc oxide, USP, 50 lb.-dms., c.l., frt. alld.	lb.	.15¾	—
50 lb.-dms., l.c.l., 10 tons or more, same basis	lb.	.16¼	—
50 lb.-dms., l.c.l., smaller lots, same basis	lb.	.16¾	—
Zinc phenolsulfonate, NF., gran., dms	lb.	.45	.46
NF, powd., dms.	lb.	.48	.49
Zinc resinate, precip. 7.2-7.6% Zn., dms., frt. alld	lb.	.45	—
Zinc silicofluoride dms. works	lb.	12½	.14
Zinc stearate USP, ctns., c.l.	lb.	.41	—
	lb.	.41	—
ctns., l.c.l	lb.	.42	.46
Zinc sulfate powd., monohydrate, 36% Zn. bgs. c.l. dlvd. E	100 lbs.	8.00	—
bgs., l.c.l., dlvd. E	100 lbs.	9.00	—
Zinc sulfate in bbls 40c higher			
Zinc undecylenate 75-lb. fib. dms., f.o.b. works	lb	2.04	—
Zinc, yellow (see Zinc chromate)			
Zinc-ammonium chloride, bgs., c.l., works	100 lbs.	10.25	—
bbls., c.l., works	100 lbs.	10.85	—
bbls., l.c.l. works	100 lbs.	11.35	—
Zinc-formaldehyde sulfoxylate, basic, 300-lb dms., frt. alld	lb.	.26	—
Normal, 250-lb dms., frt. alld	lb.	.55	—
bgs., 5 tons to c.l., works	lb.	.03⅜	—
Zircon (G) gran., bgs., 5 tons to c.l., works	lb.	.03⅜	—
bgs., 1 ton to 9,999-lb lots, works	lb.	.04	—
bgs., smaller lots, works	lb.	.06½	—
Milled, bgs., c.l., works	lb.	.04½	—
bgs., 5 tons to c.l., works	lb.	.04⅜	—
bgs., 1 ton to 9,999-lb. lots, works	lb.	.04⅝	—
bgs., 500-1,999-lb. lots, works	lb.	.07½	—
Zircon (G) in barrels 1c. higher.			
Zirconium acetate soln., 13% ZrO_2, dms. c.l. 30,000 lbs. min., works	lb.	.23	—
Zirconium hydride powd. electronic grade, dms., works	lb.	14.00	15.00
Zirconium oxide, CP, white, grd., bbls or bgs. works	lb.	1.50	—
Electric-fused lump, bgs. 500 to 1,999-lb lots, works	lb.	.48½	—
bgs., smaller lots, works	lb.	.51	—
Milled, bgs., c.l., works	lb.	.62	—
bgs., 5-ton lots, works	lb.	.62½	—
bgs., 1-ton to 9,999-lb. lots, works	lb.	.63½	—
bgs., 500 to 1,999-lb lots, works	lb.	.64	—
bgs. smaller lots, works	lb.	.66	—
Glass polishing grade, 94-97% ZrO_2, bgs. works	lb.	.55	.65
Opacifier grade 85-90% ZrO_2 bgs.,	lb.	.27	.50
Stabilized oxide 91% ZrO_2, milled, bgs	lb.	.62	.85
Zirconium oxychloride, cryst., ctns., 5-ton lots, works	lb.	.37½	—

Yttrium Paydirt?

—Continued from page 5

misch, or mixture, metal and 35-40 cents for magnesium). Vitro is convinced that yttrium may grab off a huge chunk of the nodular iron market once word of the Crane Company finding gets around.

That this can mean big money is illustrated by the fact that current estimates indicate that some 200,000 tons of nodular iron will find their way this year into such end-uses as rolling mills for steel, auto crankshafts and valve bodies.

As three to five pounds of yttrium are used for each ton of nodular iron, it is conceivable that the rare metal could become a million-pound item. More realistic, Vitro is hoping for about a quarter of that poundage.

Of course, to achieve such a volume, yttrium's price will have to come way down. To what level? Best guess is around $20 to $25 a pound.

Crane, which has a number of patent applications pending here and abroad on its yttrium nodular iron development, at one time was co-owner with Vitro of Heavy Minerals Company of Chattanooga, Tenn. This is now Vitro's Chattanooga plant.

Crane's particular interest, which it showed at last week's Chemical Exposition in New York, is yttrium's application to valve bodies.

Pesticide Men See Doom in Kefauver Bill

—Continued from page 4

the federal insecticide act administered by the Department of Agriculture on the basis that they are already adequately regulated.

"Nevertheless," he continues, "the Department of Agriculture has indicated that it is under heavy pressure to apply the same labeling standards required by Food & Drug Administration under the hazardous substances labeling regulations to the labeling of pesticides under the federal insecticide act.

Industry Must Be 'Apprehensive'

"For these reasons," he says, "our industry must be apprehensive that the regulatory pattern established by this legislation would at first be related indirectly to the regulation of pesticide residues under other provisions of the federal food, drug and cosmetic act and that in time there would be demands to impose by legislation the same regulatory pattern on these products."

Turning to the patent provisions of the Kefauver bill, which seek to impose a three-year limit on exclusive rights of drug patent holders, Mr. Hitchner predicts that such a limitation will discourage private and corporate research programs now being carried on to develop new, safer and more effective agricultural chemicals for the control of insects and diseases.

He says that at the present time, to comply with government rules and regulations, the cost of developing an agricultural pesticide chemical is a minimum of $1.5 million, and without adequate patent protection no individual or company could justify the continuation of their programs.

In most cases, he adds, it takes three years or more to obtain a patent and to comply with the requirements of HEW under the Miller pesticides amendment, a minimum of three years is required to develop the necessary technical data to obtain approval for sale.

This is exclusive of the time necessary for introduction in the field and for the practical preliminary testing and acceptance by growers.

"Small manufacturers who have been responsible for many major developments," Mr. Hitchner declares, "have already been greatly discouraged by existing legislation and the limitations proposed in the current legislation would eliminate all individual and small company research.

"No individual or manufacturer could afford, with an 8 percent maximum royalty limit, to spend any time and effort in the research field."

Threat to Incentives

Mr. Hitchner concludes with this statement:

"It is our opinion that this type of legislation threatens to destroy the incentives which have made possible the tremendous research in all fields of American industry.

"Already under recent legislation and administrative rulings in the field of agricultural chemicals in foods, the entire research of the United States is now subject to control by a small group of people in Washington.

"The proposed legislation is simply another step toward socialized research and we respectfully request that these implications be carefully considered by the members of the committee who are reviewing the evidence thereon."

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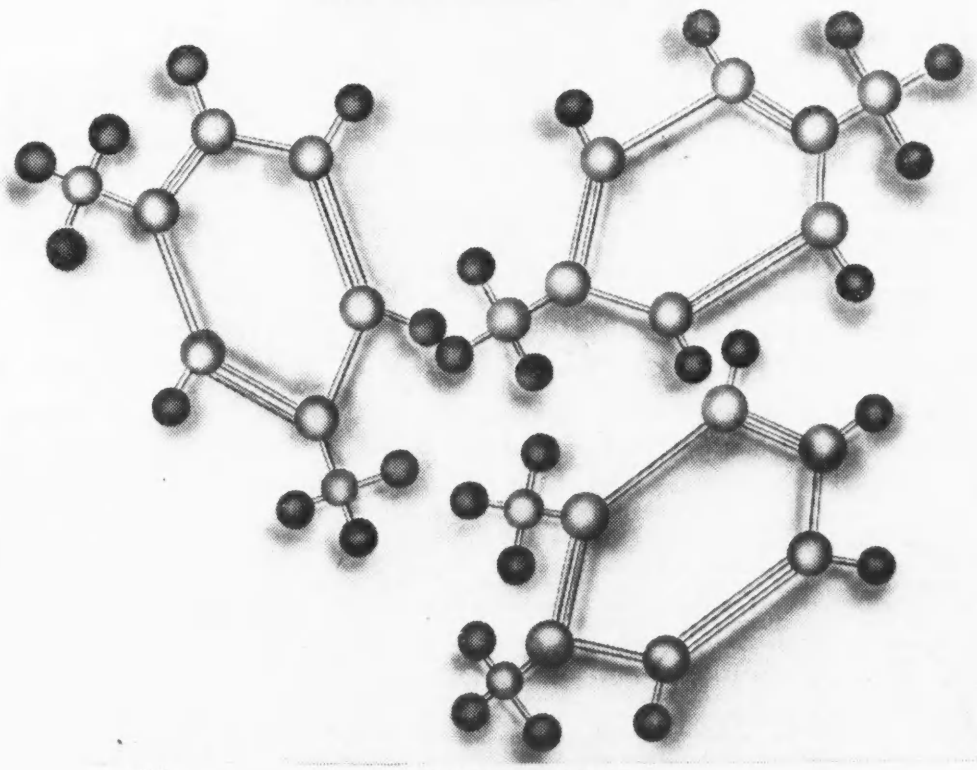

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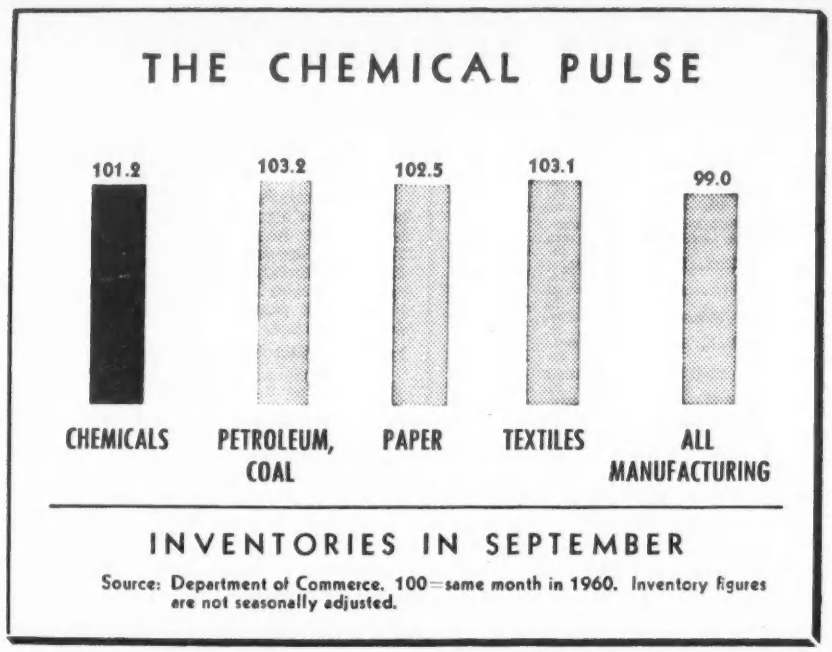


Business Must Do It

President Kennedy recently appointed a committee on youth employment—the report being that he wanted jobs found for a million. The committee has twenty-three members—cabinet officers, educators, labor leaders, and representatives of the public, some of whom are said to be prominent in various areas of business. Its administrative and operative implementation, it is said, will come by way of a youth employment division to be created in the Bureau of Employment Security.

The Secretary of Labor, who is chairman of the new committee, in a public address to a conference on youth problems, said that there is "no youth problem, but a problem of older people who, having beaten our government, business, and labor, have failed to provide youth with the opportunities to which it is entitled."

Another speaker at the conference went along that line to declare that the problem of youth employment "will be solvable only if there is a change in the whole economic situation to produce adequate opportunity and training for youth."

The general feeling was that the vocational training of youth should start in the public schools. That raised the question of where and how capably equipped teachers were to be obtained. Nobody there, according to published reports, advised or even suggested that representatives of local businesses should volunteer for such services.

In that connection, it is of interest to know that practical economists in various operative segments are attacking the expanding activity of the federal government to take over functions that "should be performed by local communities and private enterprise."

The training and helping of youth to get employment is a job which only business can do as it must be done. In every community, all local business groups should collaborate with the board of education in the construction of appropriate programs for the participation of their specifically qualified representatives to participate in the teaching schedules at such grades as they believed to be capable to learn what they wanted to teach.

Drugdom's 'Big' Week

This week bids fair to being a big one for the drug trade. The semantics of "big" depends on the point of view from which it is interpreted. Behind its bigness is whatever may come as victories or as defeats for the trade as a consequence of the special endeavor of the Kefauver senatorial antitrust committee to make the week a bad one for those who make or sell products designed and promoted for remedial application in connection with the health needs of the public.

There is no way of knowing with any assurance to what extent, numerically or objectively, there is agreement or disagreement among the members of the senate committee with the attitude of its chairman with respect to the drug trade. But, there has been a goodly measure of published evidence that there is more than a little disagreement in that respect among the members of the senate as a whole.

That should give the drug trade good reason to expect that the only damage that will come to it out of the Kefauver campaign will be that from the publicity which, as has been opined here before, is logically to be believed to play a dominating part in his motivation. That damaging can be effectively combatted. The public should be fully informed on what the representatives of the Manufacturing Chemists' Association and the American Bar Association have to say at this week's hearing—also what was talked over by Washington on page 9 last week.

Properly publicized, this week's drug doings can be made variously big for the trade in a desirably pertinent way. And every bit of that good stuff should be carefully stored away in the PMA, APhA, NWDA, and NARD offices as reserve ammunition against what use the Federal Trade Commission, peeved over its antibiotic flop of a month ago, might set out to make of the bad stuff that has come out in the Kefauver attack on the drug "trust."

Re Chemical Profits

It is not only in the chemical industry that there is fretting (see page 3 last week) over today's perplexing economic trend toward smaller profits from larger sales. Costs of producing and of selling have done more than a little soaring thus far in the still young sixties. And because competition likewise has gone up and up, it has not been practicable to maintain the cost/price ratio of a decade ago.

Those in the chemical industry who, quite naturally, are finding it difficult not to be fretful over the profit situation, are advised to read carefully what was reported on page 5 last week on "Chemical Profits: Emotions Can Upset them."

It is to be expected that, to the extent that they are acquainted with and considerate of employment relations, that reading will arouse their interest in the report from the frontiers of "Psychiatry in Industry" to the MCA convention, on which the OPD item was based. The next step logically would be to send a request to the MCA office for a complete copy of that report.

Employment relations are human relations in large measure under conditions that are more than normally promotive of reactionary tensions. It is basically essential that whoever has to do directorially with those relations in any company set-up should be adequately gifted with psychological understanding and capability for its application.

Meetings

American Association for the Advancement of Science, Denver, Colo., December 26-31.

American Chemical Society, national meeting, Washington, D. C., March 20-29.

American Institute of Chemical Engineers, annual meeting, Commodore hotel, New York, December 3-6.

American Society for Testing Materials, committee week, Statler-Hilton hotel, Dallas, Tex., February 5-9.

Association of American Soap & Glycerine Producers, annual convention, Waldorf-Astoria hotel, New York, January 24-26.

Chemical Market Research Association, Warwick hotel, Philadelphia, February 2-3.

Chemical Specialties Manufacturers Association, annual meeting, Roosevelt hotel, New York, December 4-6.

Drug, Chemical & Allied Trades Association, annual banquet, Waldorf-Astoria hotel, New York, March 1.

Northeastern Weed Control Conference, New Yorker hotel, New York, January 3-5.

Pharmaceutical Manufacturers Association, eastern regional meeting, Waldorf-Astoria hotel, New York, December 11-12; central regional meeting, Edgewater Beach hotel, Chicago, February 13-14; western regional meeting, Ambassador hotel, Los Angeles, February 19-20.

Salesmen's Association of the American Chemical Industry, Christmas party, Waldorf-Astoria hotel, New York, December 13; joint meeting with the Chemical Buyers Group of the National Association of Purchasing Agents, Roosevelt hotel, New York, February 1.

Society of the Plastics Industry, plastic film, sheeting and coated fabrics conference, Pierre hotel, New York, December 7-8.

Society of the Plastics Industry, reinforced plastics division conference Edgewater Beach hotel, Chicago, February 6-8; annual western section conference, del Coronado hotel, Coronado, Calif., April 4-6.

Synthetic Organic Chemical Manufacturers Association, annual meeting and dinner, Roosevelt hotel, New York, December 7.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meeting, Roosevelt hotel, New York, January 9.

Toilet Goods Association, joint convention with Toilet Goods Manufacturers Association of Canada, Chateau Frontenac, Quebec City, Canada, June 24-29.

Weed Society of America, annual meeting Jefferson hotel, St. Louis, Mo., December 11-14.

Washington Talks It Over

FDA and the Food Law Institute Discuss Legal and Legislative Matters at Another Open House And a Good and Apparently Profitable Time Is Had by All.

By Ralph L. Cherry
Washington Editor

Food & Drug Administration and the Food Law Institute last week held a conference which is firmly becoming an annual affair—this being the fifth in as many years—to take up with industry, consumers and anyone else who is interested in some of the problems arising out of the food and drug law and its related legislation.

By most accounts, these conferences are proving to be quite successful. They are giving the working management of the chemical producers and others a chance to discuss their problems and fears with policy-making officials of the agency.

They are giving FDA officials the opportunity to reach the people they want to reach to explain and clarify policies and matters that are the concern of both.

For some little time now, FDA and the industries it regulates have tended to drift apart. This is quite understandable when one looks back over the past several years and recalls the many things that have happened both to the agency and industry.

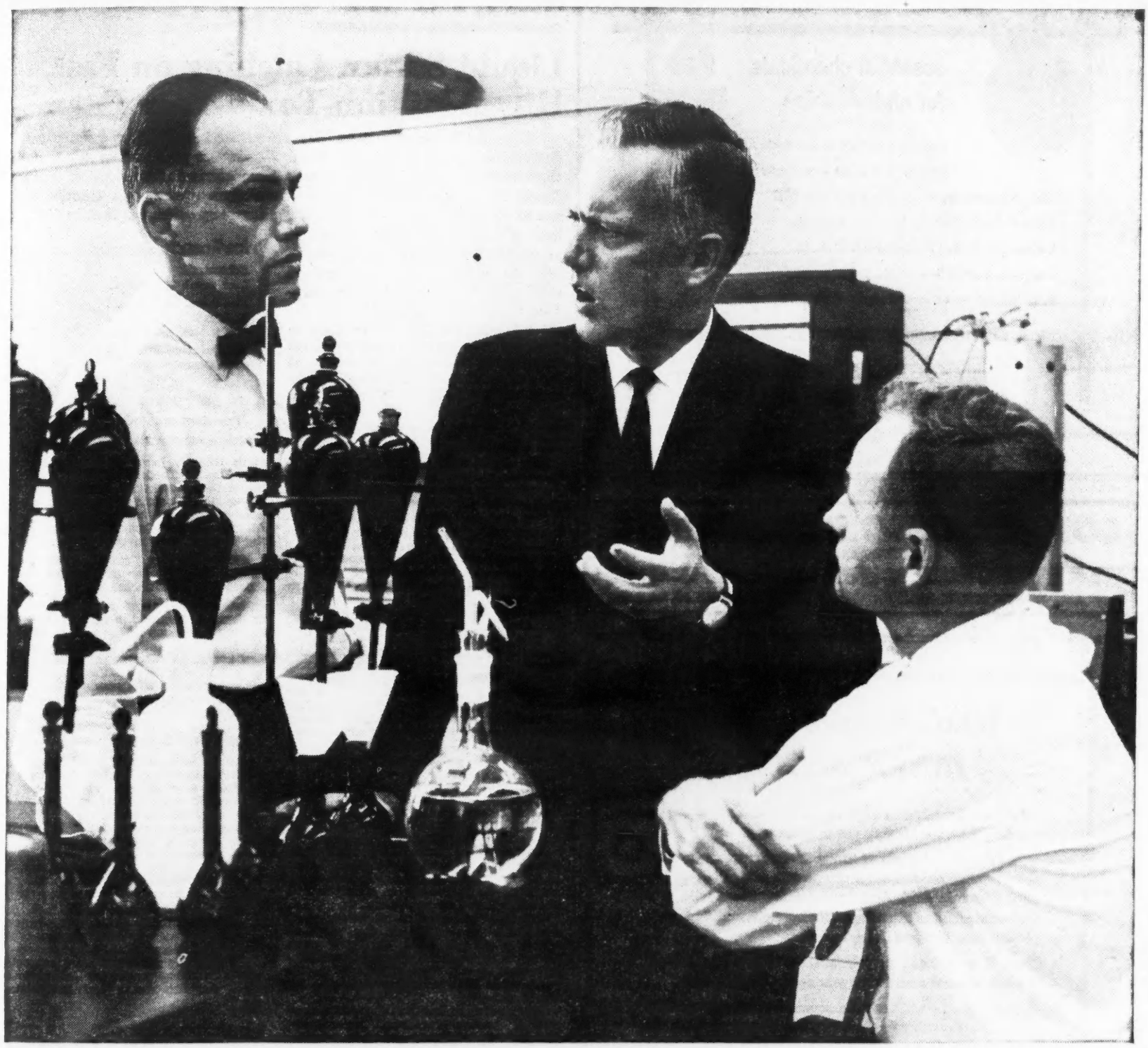
In the backwash of the Kefauver drug investigations, FDA was accused of being too industry-minded and was the target of inquiries into its operating policies and the integrity of its employes. The activities of one of its employees—Dr. Henry Welch—was instrumental in forcing the issuance of a new code for employees of the Department of Health, Education & Welfare.

On the other hand, industries which heretofore hardly knew of the FDA's existence, suddenly found themselves under its jurisdiction and subject to its rule and regulations as a result of congressional enactments on additives and hazardous articles labeling. They were suspicious of this bureaucracy and how it operated.

Deputy FDA Commissioner John Harvey remarked in his welcoming address that FDA places a high value on these meetings because they offer a unique opportunity for key people to exchange ideas, informally, and to recognize and resolve little problems before they become big.

"For our part," he said, "we have been gratified to find that the key industry leaders who attend these conferences and talk with us during and after, are, in fact, just people, and in most cases quite reasonable people at that.

"And I know that some of you have been surprised in past years after talking with us to find that we are just people, too, and a bit more reasonable than you might have thought."



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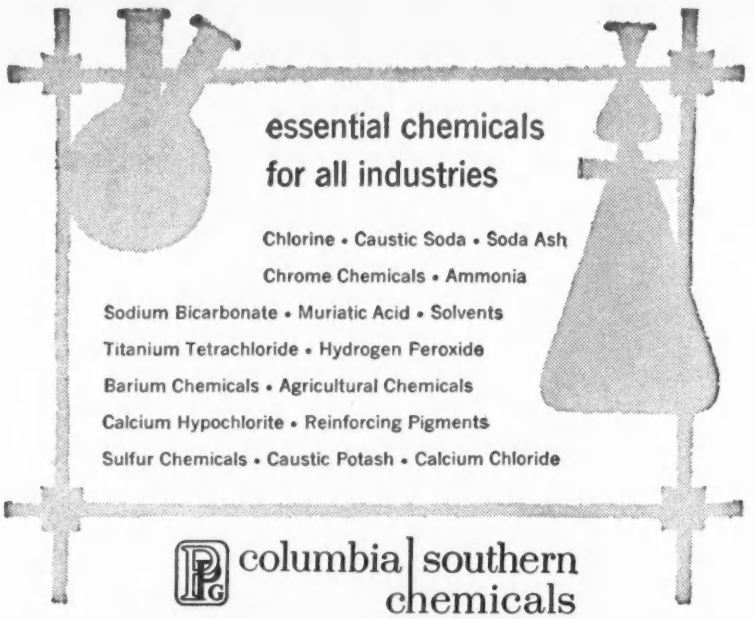
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Heavy Chemicals

Liquid Sulfur, Catching on Fast, Hits 2-Million-Ton-a-Year Pace

In a lackluster sales year, the US sulfur industry has quietly revolutionized one facet of its operations. Within the past twelve months more than sixty sulfur-consuming plants have converted to receive sulfur in liquid form, in place of the traditional lump form, and trend's end is not in sight. A major New York-based company estimates that in 1961 one-half of all domestic shipments of mined sulfur, or about 2 million tons, will be in liquid form, compared with only one-fourth of total shipments in 1960.

Pointing up the speed of the changeover, not one of the industry's three ocean-going tankers was yet afloat at the start of '61. The three, owned and operated by maritime interests, were launched in the spring by the two big domestic producers and the top Mexican company.

Why liquid sulfur? The question, says one trade source, should be "Why solid?" For all sulfur is mined and most of it used as a hot liquid.

The most immediate avantage of maintaining sulfur as a liquid, then, is the elimination of remelting costs and the handling losses that occur with remelting. Also eliminated are dust, dust-causing corrosion, stockpile erosion and contamination.

Though the major benefits will accrue to consumers, producers will gain directly by the simplified handling and the elimination of shrinkage during handling and storage of solid sulfur, which generally averages 0.5 percent or more.

Another area in which the producer profits is in freight costs. Storage capacity of the new tankers is 50 percent greater than that of vessels carrying solid sulfur, and cruising speeds average fourteen to fifteen knots an hour—opposed to ten knots.

This reduction in shipping costs is particularly important to American producers since it cuts down the advantage enjoyed by Mexican firms in being permitted to use foreign flag vessels.

Also from the point of view of competition, the development puts the US (and Mexican) producers one step ahead of potential competition from Canadian and French natural gas producers.

In sales, the industry has experienced something of a breather this year—off about 8 percent from the 1960 pace. Through September, sales totaled 3,545,390 tons, down from 3,830,480 in the comparable 1960 period, according to the Mines Bureau.

The downturn has been spread among several outlets—fertilizer, because of that industry's large inventory at the close of '60, plus lagging steel and titanium. Poor planting weather in the midwest also affected fertilizer sales, particularly in the summer months.

Price Trends

Advanced

Lead metal, ¼c. per lb.
Silver, 9⅜c. per troy oz.
Zinc metal, ½c. per lb.

Reduced

Tin, Straits, 1c. per lb.

Comparative Price Indexes
(100—1949 average)

Last week	Prev. week	Last month	Dec. 2, 1960
106.65	106.64	106.63	106.88

For Current Prices See Page 9

Acids

Chromic—One dealer in chromic and other small volume acids here reports that consuming demand is persisting later into the year than usual, auguring well for the first quarter.

Hydrofluoric—A new 11,000-ton-a-year plant recently came on stream in north New Jersey. Trade sources still feel that the eastern market is oversupplied with merchant acid since most of the big-volume consumers have captive capacity. Atomic Energy Commission has become the largest open market buyer.

Nitric—Lagging steel demand has placed the acid in very ample supply. Prices continue unchanged.

Sulfuric—Prices of sulfuric have been unchanged despite the now firmly established $2 advance in sulfur for east coast delivery. The sulfur price advance was first posted by US producers (in the form of a $2 reduction in the $3.50 freight allowance) early this year and took effect on all contracts reportedly by mid-Summer.

Bases and Salts

Caustic Soda—Spotty conditions of supply imbalance or competition have caused transitory retreats from posted prices, but the overall market is reported in balance with sales at list price.

Many plants are reported ordering shipments through what would normally be their one-week shutdown period at the end of the year. This, more than any other tangible factor in the present market, is said to augur a boom year in '62.

Soda Ash—Announcement last fortnight of an increase in dense ash capacity by a major producer points up two salient features of the market. They are an anticipated sharp growth in glass production and a growing preference of soda ash users for the dense and intermediate grades.

Nonferrous Metals

Chromium—Consumption of chromite in August rose 27 percent to 115,133 tons, from 90,364 in July, the Bureau of Mines Reports. Metallurgical usage gained 36 percent, refractory 20 percent and chemical 11 percent.

Silver—By Friday, the price had soared to $1.00¾ a pound, up to 10 percent over the long-standing 91⅜c. a pound. This was in response to the administration's move to create a free silver market by withdrawing as a seller of treasury silver.

Though opposed by mining interests, a

Inorganic Chemicals Output: September

The following figures compiled by the Bureau of Census indicate production of industrially important inorganic chemicals in tons:

	September	August
Aluminum chloride, anhyd.	1,800	1,757
liq. cryst	1,456	*2,249
Aluminum sulfate, coml., iron free	73,939	85,843
	4,283	*3,592
Carbon dioxide, liq., gas, solid	43,726	*52,099
	43,304	*53,363
Chlorine gas	349,896	*394,697
Hydrochloric acid	72,284	*83,325
Hydrofluoric acid	9,057	9,824
Hydrogen peroxide	2,570	1,893
Nitric acid	263,880	276,610
Phosphoric acid	175,409	*175,018
Phosphorus elemental	31,625	33,053
Phosphorus oxychloride	1,708	1,278
Phosphorus trichloride	1,831	1,642
Potash, caustic, liq.	9,244	8,492
solid	1,664	1,477
Soda ash, syn., light	192,231	*193,065
syn., dense	164,605	173,658
natural	(NA)	*65,504
Soda caustic, liquid	370,023	*417,884
dry	29,695	39,369
Sodium bichromate and chromate	9,936	16,224
Sodium chlorate	8,926	8,604
Sodium hydrosulfite	2,469	2,044
Sodium metal	(NA)	(NA)
Sodium phosphate, tribasic	4,692	4,552
Tetra	7,595	8,598
Meta	5,591	6,251
Acid pyro	1,292	1,431
Tripoly	67,106	66,348
Sodium silicate	42,986	40,988
Sodium sulfate, anhyd.	25,362	*26,062
Glauber's salt	(NA)	4,736
Salt Cake, crude	(NA)	*66,162
Sulfuric acid, gross	1,390,948	*1,401,744

(NA) not available.
* Revised.
† Excludes data for government owned privately operated plants.

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Heavy Chemicals

measure to free the market further by eliminating purchases by the Treasury at floor prices is also contemplated.

Zinc — The industry's vastly improved statistical position brought a price rise of ½ cent a pound last week. This tabs the metal at 12 cents a pound, E. St. Louis, and 12½ cents, New York.

Lead—Price has been lifted ¼c. a pound to 10.25c., New York basis. This reverses a downtrend which brought two recent ½c. reductions. Vigorous buying by consumers encouraged the price recovery, it was said.

In turn, that buying reflected a feeling that the earlier declines had carried the price to rock bottom, and that it would be unwise to defer purchases any longer.

Tin—Price held fairly steady against moderate buying interest, closing 1c. lower Friday in New York at $1.22 a pound for Straits metal.

Paper Production Lower

The American Paper & Pulp Association reported paper production for the week ended Nov. 25 at 88.4 percent of theoretical capacity as compared with the revised figure of 94.3 percent for the previous week and 86.7 percent for the corresponding week of last year.

Heavy Chemical Briefs

CRYSTALLINE SILICA: A new physical form of crystalline silica is now available from Pennsylvania Glass Sand Corporation, Pittsburgh, Pa. Trade-named "Min-U-Sil," the material is high-purity crystalline silica in uniform micron sizes. Superior properties claimed include fineness, purity and closely controlled particle size. The company operates thirteen plants in seven states.

FREEPORT OFFERS BOOKLET: A colorful, illustrated booklet just out from Freeport Sulphur Company brings the reader up to date on a year of phenomenal progress in converting equipment and maritime facilities to handle liquid sulfur. Market aspects of the report are discussed in the opening section of this column.

GSA WANTS URANIUM BIDS: General Services Administration is inviting sealed bids on 8,132 short tons of Baddeleyite, a uranium-bearing material, 3,978 tons of zircon concentrates and the balance of US holdings of zirconium-bearing ore—1,732 short tons. Bids will be opened December 21 at 11 a.m.

NAT'L LEAD MAN HONORED: American Institute of Mining, Metallurgical & Petroleum Engineers has awarded its William Lawrence Saunders gold medal to Joseph H. Reid, vice-president of National Lead Company. Cited was Mr. Reid's "leadership in establishing large-scale operations in industrial mineral deposits, particularly ilmenite, barite and bentonite clays."

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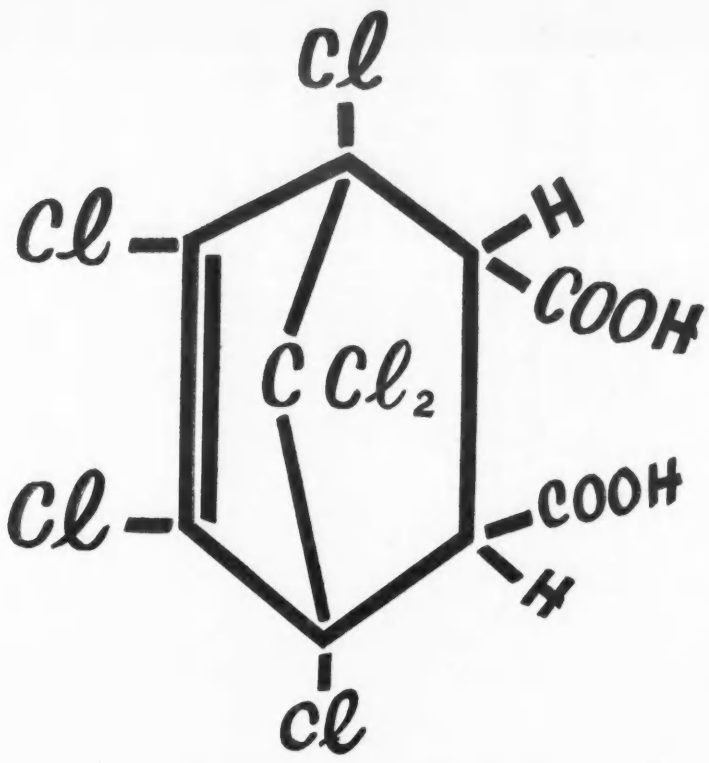

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Hooker Girds for Stiffer Competition

—Continued from page 3

keting," lowered production costs and stepped-up research.

Though not ruled out, mergers will be adopted only as "an occasional expediency," says Mr. Bryant. The company intends, instead, to throw most of its resources into integration—back to raw materials and forward to the consumer.

Fitting into the raw materials end of this pattern is Hooker's new phenol plant at South Shore, Ky., slated for start-up in the fall of '62.

The unit will complement phenol production at North Tonawanda, N. Y., and within three years, Mr. Bryant estimates, Hooker will be using total output of both plants captively for its expanding phenolic resin operations.

Similarly, the company has been exploring for phosphate rock in Mexico. This project is now completed, and a decision will be reached shortly on whether to go ahead with production, Hooker's president says. The company now buys a large tonnage of phosphate rock for its extensive phosphatic fertilizer operation.

Hooker Sodium Borohydride Process

Hooker's interest in upgraded products is currently seen in its patent application covering use of sodium borohydride in pulp and paper bleaching. The process application reportedly has been approved and Hooker expects the patent to issue next year.

Not a producer of borohydride, Hooker has devised a method for combining use of this high-priced material with chlorine dioxide, a conventional pulp bleach. The company is a major source of sodium chlorate, starting material for chlorine dioxide.

Mr. Bryant, who assessed Hooker's future at a luncheon meeting of the New York Society of Security Analysts last week, feels bullish on the short-term profit outlook for caustic soda and chlorine.

This means no price erosion in caustic (OPD, 11/27/61) and leaves the door open to a possible strengthening in chlorine prices.

In addition, costs at the Niagara Falls, N. Y., electrolytic facility will be cut sharply next year by the switchover to sixty-cycle electric power and replacement of existing mercury cells with updated, more efficient equipment.

Mr. Bryant estimates that the switch to sixty-cycle power will save Hooker $750,000 a year in production costs before taxes.

With a brisk upturn in sales this quarter, Hooker expects to wipe out a $2 million decline in sales experienced during the first quarter and match last year's $149.8 million volume. In 1962, the company looks for a sales volume of $160 million.

Profits this year will show a decline, mainly because of failure of a phosphorus furnace which held the company's phorphorus output down to 50 percent of capacity for a month.

Mr. Bryant notes that negotiations are still under way for a merger with Parker Rust Proof Company, of Detroit, Mich. (OPD, 10/23/61).

This is said to represent a logical exception to Hooker's no-merger approach since it would bring the company into a field already targeted by its own work with metal-treating chemicals.

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Obituaries

Dr. William Allen Hamor

Dr. William Allen Hamor, retired senior director of research for Mellon Institute, Pittsburgh, Pa., died November 23 after an illness of several months. He was seventy-four years old.

Dr. Hamor, who had been called "the greatest living American authority on the literature of chemistry," retired in 1959 after forty-five years with Mellon Institute. He was author or co-author of nearly 200 articles and publications, including five books.

From 1947 until his retirement, Dr. Hamor was editor of the American Chemical Society's *Chemical Monograph* series.

Henry B. Shattuck

Henry B. Shattuck, who retired in 1930 as treasurer and vice-president of Abbott Laboratories, North Chicago, Ill., and manager of the company's New York branch, died November 21 in Glen Rock, N.J. He would have been 104 years old on November 22.

S. Winston Childs, jr., management consultant and a director of Canadian Cod Liver Oil Company, Ltd., died November 24 in New York. He was fifty-seven years old.

Methyl Carbamate Offered

Methyl carbamate compounds are available in commercial quantities for the first time, reports Robert J. Milano, president of Millmaster Chemical Corporation, New York. Mr. Milano attributes the move to development of a unique, economically feasible process by Berkeley Chemical Corporation, a Millmaster affiliate, and to rapidly growing interest in methyl carbamate and its derivatives.

Phosphorus Capacity

—*Continued from page 7*

TVA. However, overall production of phosphorus at the center will not be expanded, for the new unit will replace smaller ones that are now obsolete.

Explaining its reason for the new furnace, TVA points out that the use of elemental phosphorus in the manufacture of fertilizers has soared in recent years.

From 1950 to 1959, annual use more than tripled, rising from 24,000 to over 83,000 tons. The shift to higher analysis fertilizer materials and widespread acceptance of liquid and new solid fertilizers helped to spur use of furnace phosphorus.

Total elemental phosphorus output now amounts to more than 400,000 tons a year, half of which is used in soaps, detergents, sanitizers, and animal feed supplements. In 1930, production was only 11,000 tons, TVA observes.

Meanwhile, private industry is looking ahead about five more years.

By January of 1962, it is expected that more than 523,000 tons of capacity should be in place. This will be up 95,500 tons from the 427,500 tons in place on January 1 of this year (OPD, 2/3/61).

Since the needs for 1965 are anticipated at nearly 507,000 tons, the industry will be operating at 96 percent of capacity at that time. That achievement, it is thought, will be bound to set off another round of expansions.

Atlantic's New Process

—*Continued from page 4*

ment, described it as a "highly complex series of operations, under closely-controlled conditions, through which the metal contaminants are transferred in water solution from the catalyst to an ion exchange resin."

The catalyst is then dried, and returned to the cracking unit for re-use; the metals are removed from the resin, which is returned to the "MET-X" unit for additional catalyst treatment.

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- A catalyst recovery section, in which the used catalyst is concentrated, dried and returned to the cracking unit.
- A resin regeneration section, where metals are displaced from the resin by an acid wash and water rinse.
- A water-treating section, to feed pure water to the process.

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Japanese Offer Three Attractions

—Continued from page 5

of chemical plants and complexes on the West Coast will become larger and more integrated, and, as a result, competition between the West Coast and Japan for the lucrative markets in the unexploited countries of Southeast Asia will become keen.

"Japan must recognize and realize this new fact, which may have far-reaching repercussions on the Japanese chemical industry."

Mr. Negishi points to the dramatic growth rate of chemicals in his country, indicating that, in relation to overall economy, chemicals can be expected to exceed the total economic growth of 7.2 percent per year needed to double national income by 1970.

*Japanese Plastics**

	1970	1965	1961
Melamines	70.0	38.0	16.5
Phenolics	250.0	119.0	57.0
Polyethylene	544.0	238.0	101.0
Polypropylene	223.0	75.0	....
Polystyrene	155.0	70.0	36.6
Polyvinyl chloride	700.0	520.0	300.0
Ureas	383.0	237.0	152.0

* Thousands of metric tons, Ministry of International Trade & Industry output estimates, adjusted for corrections of capital investment to improve balance of payments.

Referring to the tables contained in this article, he reports that they were drawn up by the Ministry of International Trade & Industry in collaboration with private industry sources.

(The figures reported by OPD are those estimates revised recently to reflect the current policy of the government to curb execessive capital investments to improve the deteriorating balance of payments.)

If doubling of the national income is achieved in 1970, Mr. Negishi points out, petrochemicals' share of total chemical sales will be 30 percent of about $8.6 billion. In 1960, of total chemical sales of $2.8 billion, petrochemicals share was only 5 percent.

Mr. Negishi also discusses some problems confonted by his petrochemical industry:

- Dependence on foreign processes and know-how.
- Requirement of government approval before an enterprise can be started.
- Problems in financing, loans being more heavily relied upon than turnback of profits into expansion.
- High cost of land and utilities.
- High rates of interest.
- Shortage of skilled and technical manpower.
- Price competition, both foreign and domestic.

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chemical industry in Japan, Sen Yurugi, director of Mitsui & Co., Tokyo, reviewed the progress of the Japanese chemical industry since World War II for the market researchers.

Echoing Mr. Negishi's complaint about expensive land, he speaks of the cost of real estate in Japan as "fantastically high" compared with that in the United States.

Further, he laments the fact that because the Japanese chemical industry is diversified, and because many plants of small capacity exist, regulation of supply and demand is difficult.

He agrees with Mr. Negishi, however, that Japanese planning and engineering are developing at a top level.

A big problem faced by the Japanese chemical industry—and a delicate one—is liberalization of foreign trade. Liberalization would start with import of raw materials.

*Japanese Synthetic Fibers**

	1970	1965	1961
Acrylonitrile	115.0	72.0	27.0
Acrylic fibers	100.0	66.0	27.0
Caprolactam	151.2	86.1	50.4
Nylon	144.0	82.0	48.0
Polyvinyl alcohol	110.0	66.0	30.0
PVA fibers	100.0	66.0	29.0
Terephthalic acid	109.3	77.9	36.1
Polyester fibers	110.0	66.0	34.0

* Thousands of metric tons. Ministry of International Trade & Industry output estimates, adjusted for correction of capital investment to improve balance of payments.

A problem arises here, Mr. Yurugi points out, because such materials as petroleum and salt must be dealt with in connection with other industries.

Further, today the chemical industry is becoming larger and larger, and requires vast capital investment. Not only that, a sudden liberalization would not permit the Japanese industry to make up for its dark ages in research and development during World War II.

Owing to these reasons, Mr. Yurugi believes, complete liberalization of the chemical industry cannot be expected to be brought about in the near future.

Market Research Problems

Discussing problems of market research in Japan, Dr. Kiyoshi Morikawa, professor of chemical engineering at the Tokyo Institute of Technology, reports a "greatly complicated" situation, different from that in western nations. Some of the difficulties:

- Japan must import almost all industrial salts, phosphate ore and potash, as well as 98 percent of petroleum requirements.
- An industrial upheaval is taking place involving the change in raw materials basis from coal, fermentation and other processes to oil.
- A shift in power production to petroleum which not only has caused a decline in utilization of products from hydroelectrolysis and coke gas, but has been responsible for over production of gasoline.
- A problem of dual status in the wage economy between large and small firms.
- A sign of "immaturity" in the industry because of heavy dependence on import of technical know-how.
- The large number of small businesses, thereby not permitting the industry to compete internationally as it would like.

Dr. Morikawa tells also of steps taken to overcome these difficulties, including a rising standard of living, plant capacity expansion, tax privileges beneficial to the industry, increased research and reliance upon joint ventures.

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Propionic Acid's Climb a Puzzler: It 'Jest Growed,' But No One Knows Why

OPD Special 'Depth' Report on Propionic Acid

—*Continued from page 3*

3 million pounds of sodium propionate capacity at Niagara Falls, N. Y., and Hoffman-Taff, Inc., about 3 million pounds of annual calcium propionate capacity at Springfield, Mo.

Hoffman-Taff took over manufacture of calcium propionate from Carbide at the beginning of 1961, it's reported in the trade, and offers it along with sodium propionate made by the latter at Niagara Falls.

Several other firms have been in and out of the market. They include Merck & Co., Eastman Chemical Products, Inc., B. L. Lemke & Co. and Sheffield Chemical Division of National Dairy Products Corporation.

Those who got out did so largely because of dim prospects for any further expansion of markets, either in the baking industry or elsewhere, in the face of keen competition for existing business. In some cases, the basic position of competitors in raw materials was discouraging.

Propionates Boosted Acid Use

Despite this rough-and-tumble in the bread preservative market that took place in the early part of the decade just past, it's generally believed that spreading use of sodium and calcium propionates in the baking industry was the largest single factor in growth of the acid.

In 1954, production of propionic acid was only 12.8 million pounds. However, in 1955, production jumped to 17.2 million pounds.

But the baking industry soon became a saturated market. As a result, calcium and sodium propionates have shown only modest growth during the last four years. Most suppliers of the salts, in fact, are not optimistic about future growth of the bakers' market.

Most sellers of calcium and sodium propionates offer them to round out a line of materials offered to the baking trade. An estimated 13 million pounds of propionates were sold in 1960; perhaps 13.6 million pounds will be sold this year.

Factors militating against rapid propionate growth: There is a decline in per-capita bread consumption; specialty breads are on the market which require no propionate additive; other mold and rope inhibitors may come along to cut a share of pie.

Favorable to propionates: They inhibit mold without inhibiting yeast action, something no other inhibitor can yet claim; they are cheap (about one-twentieth cent per loaf); addition of them assures longer shelf life for baked goods.

What to Do With Propionates?

Since baking industry consumption appears to have reached a plateau, producers are busy looking about for new uses which may spring their product out of its seeming rut.

Food & Drug Administration last summer ruled that sodium propionate could be used as a preservative and fungicide after harvest on certain vegetable products.

The FDA ruling in effect exempted sodium propionate from pesticide tolerance requirements as put forth under the Miller pesticides law.

The exemption applies specifically to use of sodium propionate as a fungicide for garlic and as a preservative on salad greens and vegetables intended for consumption in salads.

Sodium propionate suppliers are busy now trying to convince supermarkets and other makers of packaged mixed salad greens that they should spray their goods with a 2 percent sodium propionate solution to prevent browning and retard spoilage.

They point out that although the solution has a slightly acetic flavor, this is actually desirable in a salad mix. So far, response from potential users has failed to develop, but hopes are high that it will.

Another possible bright spot in the propionates' future is in the feed additives business. Here, either salt can be used. Propionate is found effective against spoilage and heating, a condition caused by fermentation of moisture-laden grain sometimes used in feeds.

Again, customer reaction has been lacking, but it's thought that with a bit of hard-sell and education, propionates might find a large market in feeds.

At least one seller of propionates waxes enthusiastic about use of sodium propionate solution on cut flowers to retard wilting and discoloration. Still no customers stirring, but in all likelihood, a market could develop among florists.

There has been some attempt on the part of proprionate producers to get their product accepted as a cheese preservative. But it's tough to buck the fact that in cheese, some propionate is naturally extant. Hence, there hasn't been much success in this field.

Whether or not these non-baking uses come into general acceptance, it appears sure that on the basis of consumption by bakers alone, the propionates will continue to be a growing end-use for propionic acid—even though unspectacular.

Cellulose Propionates Take the Lead

While sodium and calcium propionate have been on the scene some twenty-five years, it's more than likely that the cellulose propionates passed them as the largest single propionic consumer in the mid-fifties.

Eastman Chemical Products, Inc., long a prime producer of cellulosics such as the acetate and the acetate butyrate, rounded out its line with cellulose acetate propionate.

Celanese Corporation of America, in a similar position, has offered cellulose tripropionate for more than ten years. Biggest boon to the propionate business came when Western Electric Company and other manufacturing arms of the Bell System began making phones out of propionate.

As a result, propionate consumption leaped sharply and was a key factor in the rise of propionic production during the period 1956-59. However, when the telephone company began pushing colored telephones, the roof fell in.

Telephone production has averaged somewhere around 7 million phones annually in the recent past. With the shifting emphasis to color, up to 60 percent of the business has slipped away from propionate to acrylonitrile-butadiene-styrene terpolymers such as "Cycolac" (made by Marbon Chemical Division of Borg-Warner Corporation) within the last couple of years.

Propionates Hanging On

What is happening now is that cellulose propionate is hanging onto the black phone business, while ABS has pretty well captured the color portion.

The telephone end-use represents an important chunk of cellulose propionate consumption, but there are other areas no less important.

These include pen and pencil housings, auto parts, ladies' shoe heels, toys, transistor radio and television parts, toothbrush handles and the like.

One advantage to the propionate as opposed to, say, the acetate butyrate, is its lack of aroma. This property is helpful in pens and pencils, where acid moisture in the hand might cause a slight odor emission from the plastic.

Advantages in compounding and processing, claim producers, include:

- Less than half the amount of plasticizer required in cellulose acetate of comparable flex strength.
- Compatibility with a larger number of plasticizers than cellulose acetate, making a larger number of formulations possible.
- Suitability for injection molding and extrusion, having good flow characteristics, with shorter cycle than other cellulosics except in certain mechanical instances.

Stability, Plasticizer Retention Good

- It is an unusually stable cellulose ester, emitting no propionic odor; plasticizer retention is excellent; weatherability is superior to that of cellulose acetate.
- Cellulose propionate is close to methyl cellulose in shock-resistance and toughness.

If the above is true, then why haven't cellulose propionate sales soared to dizzying heights? The answer is simple: It costs too much.

The cost of cellulose propionate and other cellulosic esters is relatively high in relation to pricing for other synthetic resins with which it competes.

Despite such favorable characteristics as easy workability, a full range of colors and excellent impact strength, propionates must buck competing materials such as ABS, which can be as much as 20 cents a pound cheaper.

As an example of what can happen to markets: In 1958, use in shoe heels for women's shoes brought a spur in demand. But soon competition was felt from other resins such as nylon, not to mention aluminum, and the market leveled off.

One area where cellulose propionate is expected to hold its own: fishing lures. One attractive characteristic of propionate is its ability to retain a high-gloss surface. Apparently, fish are attracted by its glitter.

An end-use that has apparently lost its glitter is use of chloropropionic acid in manufacture of hormone-type weed-killers. Rapid acceptance of the 2,4,5-T propionic analog (2,4,5-trichlorophenoxy-propionic acid) and other chloropropionic herbicides in the mid-fifties unquestionably spurred demand for propionic.

Dow Chemical Company led the way in development and marketing of these materials under the names "Silvex" and "Kuron" in 1954.

"Dowpon" and "Dalapon" are sodium salts of 2,2-dichloropropionic acid. "Kurasal G" is its potassium salt. Dow also markets 2(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate.

Of all thee materials, only the latter has not gained the acceptance expected of it when first launched. As for the others, they have made moderate progress, but find themselves stuck on the same plateau with the rest of the weed-killers in general. Hence, only a very conservative growth rate is anticipated.

Dow gets some propionic acid from its subsidiary, Cliffs Dow Chemical Company, which obtains the material from wood distillation at a plant in Marquette, Mich. Dow buys from outside sources to round out its needs.

Despite the company's relatively large-scale use of propionic acid, it's not deemed likely that Dow will make it, at least in the foreseeable future. This is because there's plenty available at a good price.

Herbicide use isn't the only application now roosting on a plateau. Back in the mid-fifties, the Great Cigarette-Lung Cancer Scare drove the smoking masses toward the ephemeral comfort of the filter tip.

As more and more brands of cellulose-stuffed cigarettes appeared, demand for edible ester plasticizers rose accordingly. Hence, Eastman, figuring that where there's smoke, there's profit, found it could make great headway with glycerol tripropionate.

Market All Puffed Out

Demand for this material shot up rapidly, but prospects now are for a merely gradual growth, largely because 1) the filter-tip market is about saturated, 2) the Great Cigarette-Lung Cancer Scare has abated, and 3) at least one cigarette firm uses tobacco to filter its tobacco, possibly auguring a trend back to the old sot-weed itself.

Other uses for propionic acid in the US are not too easy to smoke out, since the majority of them fall into the 50,000-100,000-pound category or less.

Pharmaceutical uses include the hormone testosterone propionate, wherein the acid is used to stabilize the compound. Zinc propionate figures in pharmacy as a fungicide for athlete's foot, and as an additive in adhesive tape to make it come off the skin more readily.

An interesting, but small use of propionic acid is in conjunction with zinc oxide pigment used by the rubber industry. New

—*Continued on page 48*

PROPIONIC ACID'S SUPPLY POTENTIAL

Most Capacities Are Extremely Flexible

Producer	Location	Process	Capacity
Celanese	Pampa, Tex.	LPG Oxidation	10.0 million lbs.
Cliffs Dow	Marquette, Mich.	Wood Distillation	0.5 million lbs.
Commercial Solvents	Peoria, Ill.	Nitroparaffin Byproduct	0.2 million lbs.
DuPont	Belle, W. Va.	Modified Oxo	10.0 million lbs.
Eastman	Kingsport, Tenn.	Oxo (1)	10.0 million lbs.
Union Carbide	S. Charleston, W. Va.	Oxo (2)	10.0 million lbs.
Total			40.7 million lbs.

(1) Propionaldehyde shipped to Kingsport from oxo plant at Longview, Tex. (2) Propionaldehyde shipped to S. Charleston from oxo plant at Texas City, Tex. Celanese plant and oxo units could turn out a great deal more propionic merely by some adjustment in feedstocks.

PROPIONATE SALT PROGNOSIS: SLOW

	*Calcium	*Sodium
1965	**9.6	**5.9
1961	**8.4	**5.2
1960	8.1	**5.0
1959	7.6	4.7
1958	6.6	3.9
1957	6.9	4.6

*Millions of pounds

**Estimate

Source: Tariff Commission

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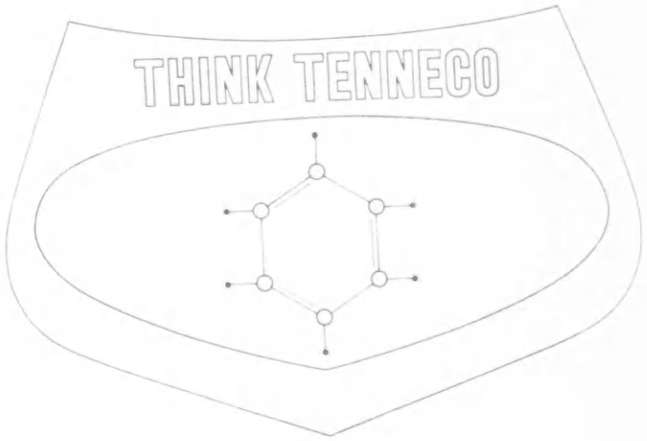
THINK TENNECO

Ethyl Alcohol Is Expected to Grow At a Modest 3 Percent Annual Rate

Since 1958, consumption of industrial ethyl alcohol has been upward, prices stable and (except for incremental increases) capacity has not been expanded. Today, synthetic ethanol makers, who have turned out more product each year since 1930—barring a miniscule drop-off in 1945—and who now supply close to 90 percent of the total requirement, readily admit that they are quite content to be in a market that is an "anomaly in the organic chemicals business." Furthermore, they look for no dramatic changes in demand, prices or capacity.

Annual growth rate, according to several trade people, will be a modest 3 percent and, reports to the contrary, no one believes that expansions are being contemplated by competitors or, in fact, that they are even warranted now or in the foreseeable future.

Distaste for the over-capacity blues, which too many in industry are already singing, is obviously one reason why synthetic ethanol makers are being singularly realistic. It is scarcely the whole story, however, for there are several very cogent arguments against expansion.

Negative factors

• First, there is considerable capacity not being utilized. A leading manufacturer, for example, has diverted its ethylene production to polyethylene at one of its installations; the process switch removed an estimated 15 million gallons of ethanol (190 proof) capacity.

A second manufacturer, capable of turning out about 46 million gallons of alcohol at present, could up this figure to about 52 million with a changeover to ethanol at an ether hydration unit.

• Secondly, a new process for making acetaldehyde via ethylene oxidation may be adopted by some makers who currently start with ethanol. One producer of acetaldehyde is currently building a plant utilizing this process but a dislocation of sales will not result because the firm doesn't now use ethanol.

Ethanol usage in the manufacture of acetaldehyde could also be cut back by still another factor. Build-up of oxo capacity will result in greater availability of butanol, which is now the largest single market for acetaldehyde.

• A third factor is the fermentation capacity available. Earlier this year, the government sold some 14 million bushels of corn for use in alcohol manufacture and trade sources feel the action set a precedent which will be followed in coming years.

In addition, it's anticipated that farm interests will do all they can to encourage the government to increase their sales of surplus corn for this purpose.

• Lastly, offerings of low-priced foreign alcohol are increasing and in coming years are expected to be a decided market influence. In 1960, imports were at a record high of 20.2 million gallons and at least that much will be brought in this year.

Record Imports

Through September, imports were 17 million gallons despite the fact that no material came in during June, July and August. The off-and-on pattern indicates, it's believed, that imported alcohol is being used less to supplement ethanol production than to replace it when ethylene, for example, is channeled to more profitable derivatives.

Most of the imported alcohol is reportedly used in chemicals manufacture, the end-products, in turn, being exported in order to save on duty charges.

Withdrawals of industrial alcohol in fiscal year 1960 totaled 283 million gallons. This figure takes into account material used for denaturation (273.8 million); for hospitals, scientific and educational purposes, exports, etc. (5 million), and for beverage, pharmaceutical and cosmetic purposes (4.2 million).

Of the total, 156.3 million gallons were used in the manufacture of acetaldehyde and, all told, requirements for chemical synthesis were 214 million gallons. Solvent demands accounted for the remainder (65 million gallons).

What is indicated by these statistics is that synthetic producers are operating at about a 238-million-gallon rate, with some 20 million gallons of imports and 25 million gallons of fermentation alcohol bringing the total to the reported 283 million gallons.

Price Trends

Advanced
None

Reduced
Molasses, N.O., ¼c. per gal.

Comparative Price Indexes
(1957–1949 average)

Last week	Prev. week	Last month	Dec. 2, 1960
129.64	129.64	130.02	130.70

For Current Prices See Page 9

There are five producers of synthetic ethanol. The largest producer's operating capacity is pegged at 105 million gallons, the smallest producer's at 18 million. In between, there are two firms with about 46 million gallons apiece and another with 23 million.

The industry's potential, of course, is appreciably greater. In other words, by turning a few faucets synthetic ethanol makers can easily fill demands for several years to come and several more after that if all the suspected negative influences materialize.

Acetic Anhydride—A chemical firm is now offering a 99 percent grade of acetic anhydride. Sales specifications in the industry are usually 97.5 percent reportedly.

Noting that many of its shipments actually assay at 99.8 percent, the firm says its new "Hi-Assay" acetic anhydride speeds acetylation reaction time with increased yields, resulting in lowered costs and improved quality.

Azelaic Acid—A 1c. reduction has established azelaic acid prices at 36c. a pound in a carload of drums and at 37c. a pound in ton lots. The lower schedule is expected to increase usage of the chemical in established markets and provide an incentive to further research.

In blazing new trails for its product, the producer appears to be taking the aggressive approach. It reduced prices on azelaic 3c. a pound only five months ago, simultaneously brought on stream an ozone-oxidation plant that substantially increased its capacity for both azelaic and pelargonic acids.

Ethanolamines — Synthetic detergents and especially the liquid syndets, while rather old-hat here, are just attracting attention elsewhere in the world. The government of Trinidad and Tobago, for example, has declared the manufacture of synthetic detergents a pioneer industry, thus making it eligible for incentives.

Plans call for the building of a facility there to turn out 500 tons of powdered synthetic detergents and approximately 700 tons of liquid synthetic detergents annually. Production is expected to be marketed in Trinidad and the surrounding area starting in July 1962.

Gluconic Acid—Two significant developments have come about in this market within the past month. One was the announcement by a midwest chemicals producer that it was getting into the business, the other was a price reduction of 1½c. a pound.

Both developments are thought to be related, although some sources feel that import competition was primarily responsible for the cut in prices.

It's thought now that import volume will decrease as a result of the reduction. This does not mean less competition, of course, but only that it will be concentrated among the domestic producers, who together will have more capacity than can be utilized immediately.

Glycerine—Going into November, glycerine producers held stocks totaling 64 million pounds. This was 1.5 million pounds more than their inventories thirty days earlier and 12.9 million pounds greater than those of a year earlier.

Of the total, crude stocks represented 33.3 million pounds, refined 30.7 million. The former rose 11.4 percent while the latter declined 5.8 percent within the month.

Factory production of crude and synthetic glycerine in October was 24.2 mil-

—*Continued on page 68*

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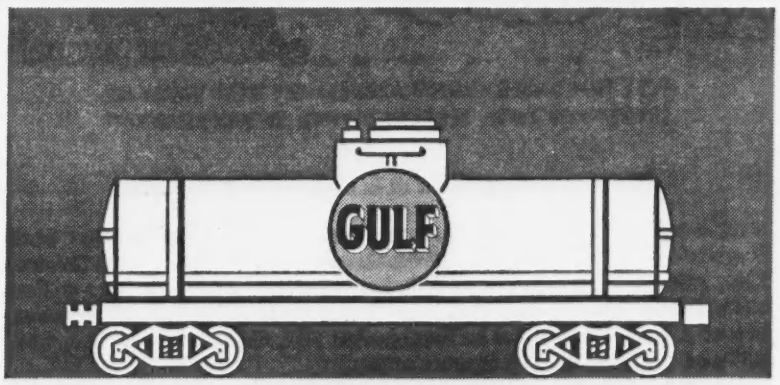

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Propionic Acid and Its Puzzling Growth

OPD Special 'Depth' Report on Propionic Acid

—*Continued from page 44*

Jersey Zinc Company patented the treating of pigment with the acid in 1939. DuPont also figures in patent literature.

Basically, addition of propionic to zinc oxide changes the electrical charge of the pigment so that there is no repulsion; hence, better wetting is obtained. Only 0.25 percent needs to be used, which means a probable annual consumption of something like 50,000 pounds of propionic acid.

Ethyl propionate figures strongly in the essential oils industry, where it is used as imitation rum flavor, among other things. Output of this material has been at a steady, small volume for many years, and, unless there is an unexpected craving for artificial rum, the market isn't expected to show much change.

Ethyl propionate can also be used as a solvent for cellulose esters and ethers, other natural and synthetic resins, and as a cutting agent for nitrocellulose. No one use here looks spectacular, either.

From evidence so far presented, one conclusion can be drawn: Nearly all the existing end-uses for propionic acid have either reached a plateau, or haven't gone far in the first place.

Propionic Acid Reprints Shortly

OPD's special "depth" report on propionic acid is being reprinted and will be available shortly. Copies may be obtained at 50 cents each (discounts on quantities of a hundred) from OIL, PAINT AND DRUG REPORTER'S Reprint Department, 30 Church Street, New York 7.

Further, future prospects for most of the discussed applications are only fair, if not downright bleak. In fact, most sources believe that growth of any given propionic market will lie somewhere between that of population and the Gross National Product—a rather dim outlook from an otherwise optimistic industry.

It's generally felt that any real stimulus for propionic will have to come from outside the present market; that is, increases in consumption in the future are likely to stem from uses not now established in the US.

It's entirely possible the domestic industry will take its cue from Europe, particularly from Badische Anilin & Sodafabrik, which has been immersed in propionate chemistry since well before World War II.

Where BASF has made its loudest noise in the European market is in the marketing of vinyl propionate. This material, tradenamed "Propiofan," is polyvinyl propionate in a 50 percent dispersion for paint latices and adhesives. It is directly competitive with polyvinyl acetate, and is made to the tune of several thousand tons annually.

US producers have shown little or no interest up to now in VP, but it may be that in the future propionic producers here will broaden their line of materials offered to the paint industry by offering a similar material.

In the United Kingdom, another use not prevalent in the US is coming into being. This is the manufacture of dilauryl 3,3'-thiodipropionate for application as an antioxidant for polyolefins.

Last month, Robinson Brothers, Ltd., put a plant on stream at Ryders Green, West Bromwich, to make this product.

Other new applications using propionic acid are in the works, but remain at present unknown factors. US producers are glad to see that their product has grown so rapidly over the last six years. But now that it seems to be losing steam, they're ready for something new.

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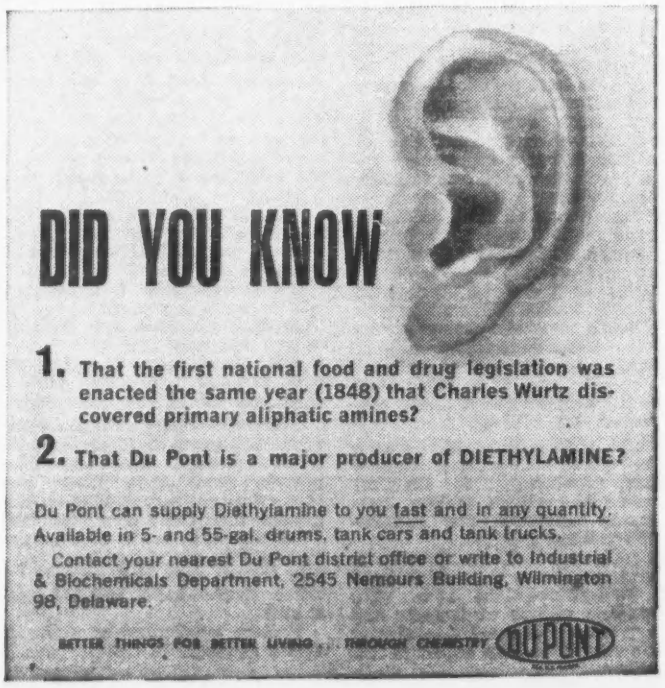

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Water Purification: Polymers Eye A Market Dominated by Inorganics

High molecular weight polymers are being groomed for a bigger role as coagulant aids in the fields of water purification and industrial sewage treatment. Heretofore, these markets have been dominated by large-volume inorganics such as lime and ferric chloride in sewage treatment and alum in water clarification. But trade sources say the synthetics, introduced only a few years ago, are hard to beat in terms of efficiency. Last week Dow Chemical Company revealed plans for stepping up testing of a new series of coagulant polymers designed to increase efficiency of vacuum filtering operations in municipal waste treatment plants.

LIME CONSUMPTION TO TREAT SEWAGE

1961 ..	*125,000 short tons
1960 ..	128,191 short tons
1959 ..	128,944 short tons
1958 ..	107,521 short tons
1957 ..	123,048 short tons
1956 ..	106,164 short tons
1955 ..	140,660 short tons

*Estimate

Source: Bureau of Mines. Figures above represent open-market sale of lime for sewage and industrial waste treatment.

According to Dow, preliminary results indicate that the dewatering efficiency of vacuum filter operations with all three general classes of sewage sludge can be improved significantly by substituting the new polymers for conventional flocculating chemicals such as ferric chloride and lime.

Dow expects to produce the new chemical agents in commercial quantities some time during 1962 if the compounds continue to perform well in the series of tests to which they are now being subjected.

Lime-Ferric Chloride Used

In vacuum filtration sewage treatment, a lime-ferric chloride mix is commonly used, the lime serving as an aid to coagulation and the ferric chloride as a conditioner to make sewage suitable for filtering.

Bureau of Mines reports 1960 open market sale of lime for treatment of sewage and industrial waste amounted to 128,191 short tons and for water softening and purification, 710,407 short tons.

Through lime for sewage treatment is usually sold as CaO and slaked at the water treating plant, the ferric chloride, used in conjunction with it is shipped as a 38-45 percent solution.

Sources differ on the amount of sewage ferric chloride being sold today, but one trade observer points out that the city of Chicago, alone, may have requirements of as much as 7,500 to 8,000 dry tons.

However, the market can vary quite a bit. It's pointed out that though many plants have vacuum filtering equipment, it is costly to operate and processors prefer to fill sewage beds around their plant before starting to operate vacuum filtering equipment.

Then, too, it's debatable how many sewage plants will continue to make use of coagulants at all. For example, new sewage plants are now in operation which utilize the Zimmerman process for sewage disposal.

In this process sewage sludge is mixed with compressed air. Sludge solids are held under pressure and at high temperatures long enough for the waste to be oxidized to combustible gases. It's expected that municipalities contemplating new sewage disposal units will take a long look at this process. According to government estimates, about 5,200 new sewage disposal units are needed in the US now.

Alum Consumption Steady

Certainly one of the most important chemicals used in water treatment is commercial grade aluminum sulfate. Distribution patterns for this large volume inorganic chemical have not changed substantially over the years.

One breakdown indicates about 65 percent of output is used in the paper industry which makes use of it as a sizing agent and for water treatment. About 30 percent is used in purification of municipal and industrial waters, leaving a bare 5 percent for miscellaneous uses.

On this basis, about 258,000 short tons of alum valued at $9.6 million were utilized in water purification last year. Thus, the market hasn't varied much from the 225,000-250,000 short tons which Department of Commerce estimates went to coagulant use in 1957.

Commerce also says 12,000 to 14,000 tons of ferric sulfate, 10,000-12,000 tons of ferrous sulfate, 15,000 to 17,500 tons of ferric chloride, and 3,500-4,000 tons of sodium aluminate were used as coagulants.

Though some alum may be used in sewage treatment, by far the bulk of material is used in removing silt and organic coloring matter from municipal and industrial water supplies. It has also been reported helpful in controlling bacteria, taste and odor.

In actual operation, alum is usually introduced into raw water, followed by a period of violent mixing while the reaction is taking place. During a subsequent period of slow agitation small particles coalesce into large settleable ones which remain in the water for varying periods of time depending on water characteristics and plant design.

Floc particles are allowed to settle in the settling basin and the clarified water is passed through sand filters for complete removal of remaining suspended matter.

American Cyanamid Company, a major producer of alum, also makes synthetic polymer coagulant aids under the tradenames "Aerofloc" and "Superfloc."

Dow Also Has 'Separan'

Dow Chemical already markets a line of flocculating chemicals ("Separan") to the waste treatment field for liquid-solid separations and has developed "Dowpac," a product for use in biological oxidation of industrial and municipal wastes.

"Separan NP10," for water treatment, is described as an acrylamide type high molecular weight synthetic polymer which is adsorbed onto solids in suspension to form tough, rapid settling flocs.

Using its new polymers, Dow compiled trial data from vacuum filtration of digested sludge at the Midland, Mich., municipal sewage plant. Results indicate that 3.6 pounds of the new polymer compounds will do the combined work of 350 pounds of lime and 85 pounds of ferric chloride and at more than three times the filtering rate, Dow says.

The synthetics produced a filtering rate of 30.5 pounds per square foot per hour on the drum when introduced to 1,200 gallons of slurry containing 25 percent sludge solids.

Operating time to filter was one and one-half hours and produced 2,560 pounds of dry solids. The resulting cakes contained 43 percent solids of which 39 percent were volatile.

A filtering rate of 9.5 pounds per square foot per hour on the drum was achieved using the plant's conventional lime-ferric chloride flocculating mix when introduced into 1,280 gallons of slurry containing 25 percent sludge solids.

Operating time to filter was five hours and produced 2,669 pounds of dry solids. Resulting cakes contained 38 percent solids of which 35 percent were volatile.

Tests in treating raw sludge at the Bay City, Mich., treating plant gave similar

—Continued on page 72

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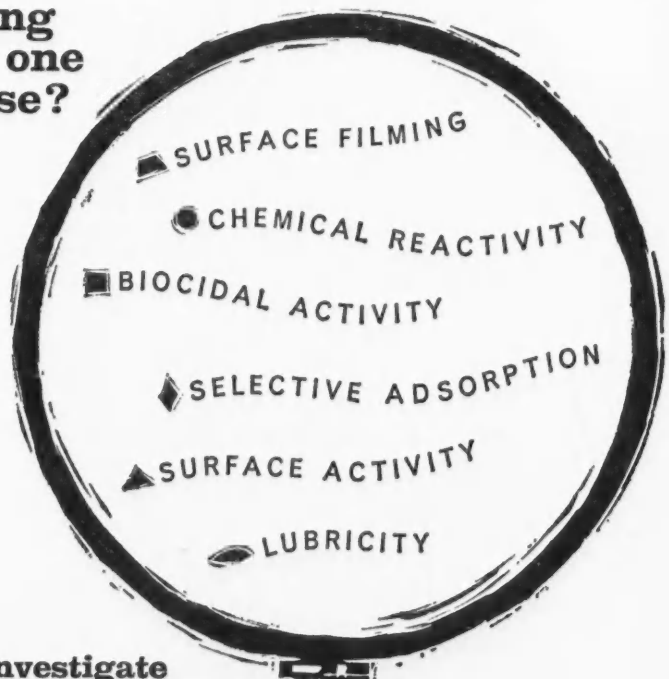

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For complete technical information, application data and chemical specifications, on Fatty Nitrogen surface active agents, write to General Mills Chemical Division, Kankakee, Illinois.

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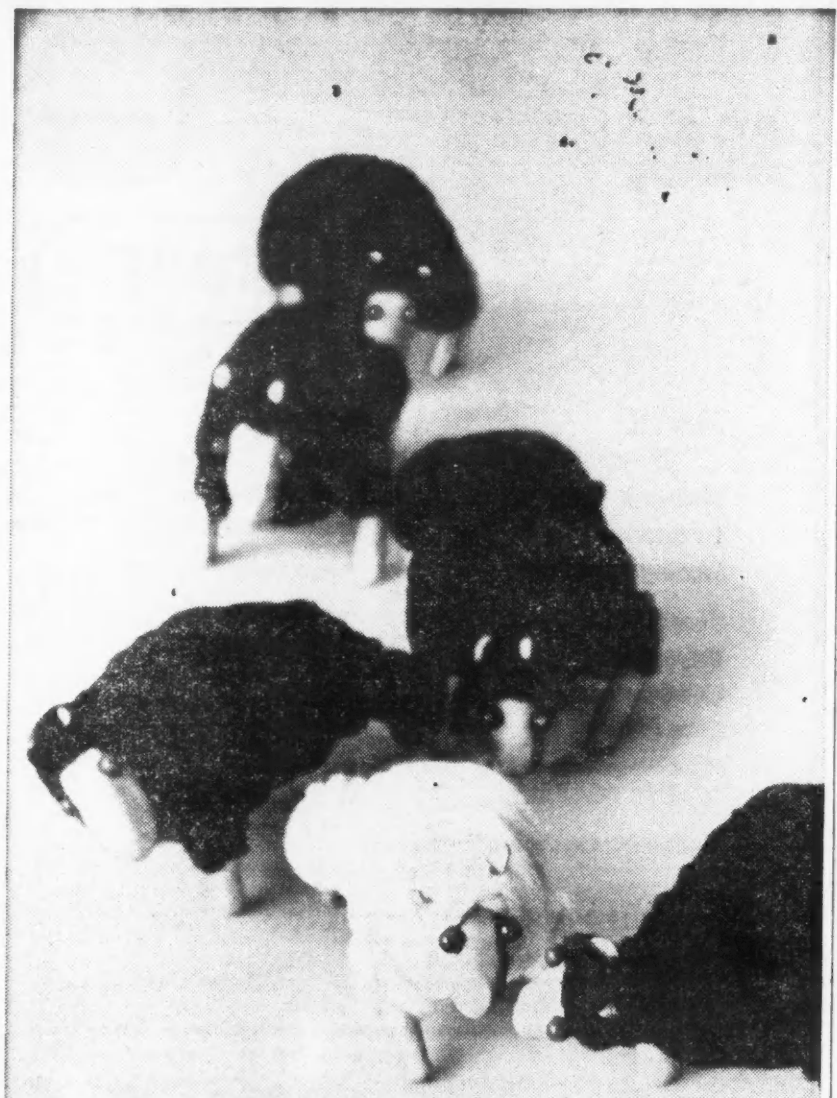

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Creosote Makers Look to New Outlets To Offset Declining Railroad Business

Creosote producers are scrambling to find new business as the railroads' use of creosote is rapidly declining. Once the mainstay of the wood-treating industry, railroad creosote volume in the past two years has approached the depression levels of the mid-thirties. Areas in which producers think they can recoup sales volume include foundation piling, farm buildings and highways. A "hard sell" campaign is being waged by producers and industry associations to stop the slide, which has seen creosote sales slump from 119 million gallons in 1957 to 87 million gallons in 1960.

In one phase of the sales push, producers are invading the rural market. Farm buildings and fences are the targets. These represent capital investments, producers point out to farmers and farm managers. As such, they should be protected with creosote so as to lengthen use and cut depreciation costs.

Creosote treatment of foundation pilings and poles in barns and outbuildings could double and more than likely triple the life of such buildings, producers indicate.

In urban areas, too, the merits of creosoted foundation pilings are being heralded. One producer reports gratifying use of treated pilings in New York's building boom.

Highways represent another area in which creosote sales efforts are concentrated.

Recently a trade source stated that if the federal government's multi-billion-dollar highway program specified wood in all appropriate applications, then all of the nation's wood-treating plants could be run full-blast to cover highway needs alone.

Creosote producers are under no delusions that all the highway business will come their way, however. So it pleases them that creosote-treated wood and steel combinations are coming into favor, reversing a trend in recent years toward concrete and steel.

One state highway system where the value of employing wood and steel has been recognized is in California. There, steel vertical stanchions for roadside fences are being specified with the horizontal bars being of treated wood.

Creosote's Advantages

Creosote-treated wood has inherent advantages over steel and concrete in highway use, producers say. Treated wood has a proved long life and maintenance costs are lower. Then, too, fewer car crash fatalities result when wooden obstacles are encountered compared with more rigid barriers.

Utility poles now probably account for as much creosote business as the railroads. Heretofore, utility poles were credited with 25 percent of the market and the railroads about 50 percent.

Utility pole business is currently rated spotty, but no decrease is expected. The number of poles treated in the last three years ranged from 5 million to 5.8 million poles. Competition is not a serious factor.

The plastic utility pole has not caught on and metal poles are deemed two and three times the cost of wooden poles.

While the underground laying of utility lines in suburban areas has cut into utility pole treating to some degree, the underground method is considered impractical over long distances.

While the promise of increased creosote business from highways, farms and construction appears bright, the outlook for railroad business is bleak.

Railroad crosstie business dropped from 50 million units annually in peak years to about 17 million ties in 1960. Switchties fell from 96.8 million board feet in 1957 to 56.5 million board feet last year.

Relief in this segment of the market is years away. Consolidation and mergers of railroads are expected to give that industry the financial strength needed to ensure proper maintenance programs.

But, at present, however, with one billion ties in service and only 17 million being replaced annually, the rate of turnover of 0.02 percent is hardly likely to breed optimism.

Exports offer no answer to increased business either, trade sources say. The US is traditionally an importer of creosote, with imports ranging between 21.3 million gallons and 37.5 million gallons since 1957.

Exports, primarily to Latin and Central America, have been well below a million gallons annually since 1957.

Right now, there is a world surplus of creosote. To siphon off the excess, producers in Europe offer a fuel composed of 50 percent creosote and 50 percent pitch. In Japan, surplus creosote is used to make carbon black.

Price Trends

Advanced
None

Reduced
None

Comparative Price Indexes
(100=1949 average)

Last week	Prev. week	Last month	Dec. 2, 1960
119.84	119.84	119.86	117.55

For Current Prices See Page 9

Basic Products

Production of steel in the week ended November 25 dropped 0.2 percent from the previous week according to AI&SI.

Production totaled 2,032,000 net tons as compared with 2,037,000 net tons in the week ended November 18.

Based on assumed 1961 steel capacity, rate of production for the week was 70.4 percent.

Output for the year through November 25 was 86,880,000 tons, down 5.4 percent from the 91,809,000 tons turned out in the comparable forty-seven week period of 1960.

Naphthalene—The world's second petronaphthalene plant is due to go on stream momentarily.

At least that's the word from the builder who reports that the 100-million-pound-a-year plant located at Toledo, Ohio, will be unveiled shortly.

When the plant starts up there will be a total of 175 million pounds of petronaphthalene available in the US, equivalent to one-third of all naphthalene capacity on stream at the beginning of 196 .

Still another petronaphthalene plant is expected to begin operations before the new year. This, too, is a 100-million-pound-a-year unit now building at Delaware City, Md.

Following the reduction in phthalic price, most observers expected a cut in naphthalene also. Although this will come about eventually there has been little talk in the trade of a cut or the amount.

Quiet as the situation is now, some trade observers indicate whatever reduction is made initially will be a small one, to be followed perhaps by a deeper cut once more petronaphthalene units go on stream.

It's reported by some in the trade that phthalic producers have been encountering difficulty with low-sulphur petroleum naphthalene in fluid bed phthalic units. Fixed-bed facilities appear to be running without difficulty.

Because of the reported difficulty with the fluid bed process, it's thought that some phthalic producers are questioning the advisability of paying the premium for petronaphthalene. However, experience with petronaphthalene is as yet limited and further work should iron out whatever problems are now occurring.

Pyridine—Some easement in the tight pyridine supply picture is reported. Although far from loose, material is increasingly more available.

One indication of this is the lower export prices being encountered. A limited amount of pyridine is reported available for export at 90c.

o-Xylene—The Japanese chemical industry, which imports xylene from the US in large amounts for o-xylene production, is hitting hard in attempts to knock down the price.

Trade sources indicate the Japanese feel they are paying prices higher than

Coal Chemicals

those current in Europe. Such a situation, they feel, places their industry at a disadvantage when it comes to marketing phthalic anhydride in the world market. The Japanese rely almost exclusively on o-xylene as phthalic raw material.

The Japanese are eager to develop wider phthalic export markets and thus are believed to be bringing pressure on US producers of raw material.

Intermediates

Phthalic Anhydride—Producers report ample phthalic in stock to meet demand that is rated currently as steady but not spectacular.

Little significant activity is expected before the first of the year.

Producers who have captive use for phthalic are reported to be in good shape in comparison with the merchant market where there is far more supply than demand.

This particular situation will become more acute by 1963 when in-place phthalic capacity is expected to hit close to 870 million pounds against a predicted demand, captive and merchant, of 435 million pounds.

Rubber Chemicals—Producers report demand for rubber chemicals such as

—*Continued on page 59*

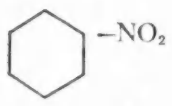
Coal Chemicals

Estimated output of coal chemicals recovered from cokeoven operations during the week ended November 25, were as follows:

Ammonia liquor	lbs.	608,190
Ammonium sulfate	lbs.	25,878,260
Benzene	gals.	2,789,094
Coaltar	gals.	14,068,697
Crude chemical oil	gals.	550,813
Solvent naphtha	gals.	91,802
Toluene	gals.	619,665
Xylene	gals.	172,129

NITROBENZENE

CHEMICAL NAME: Nitrobenzene



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MOL. WT. = 123.1

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Freezing Point (Saturated with water)	5.1°C. Min. (Equivalent to 5.6°C. dry)
Acidity	None
Moisture	0.10% Max.
Distillation Range 95% (2.5 ml. to 97.5 ml.)	0.8°C. Max. including 210.9°C.

SHIPPING CONTAINERS: Tank cars, tank trucks; 55 gal. single trip steel drums—500 lb. net.

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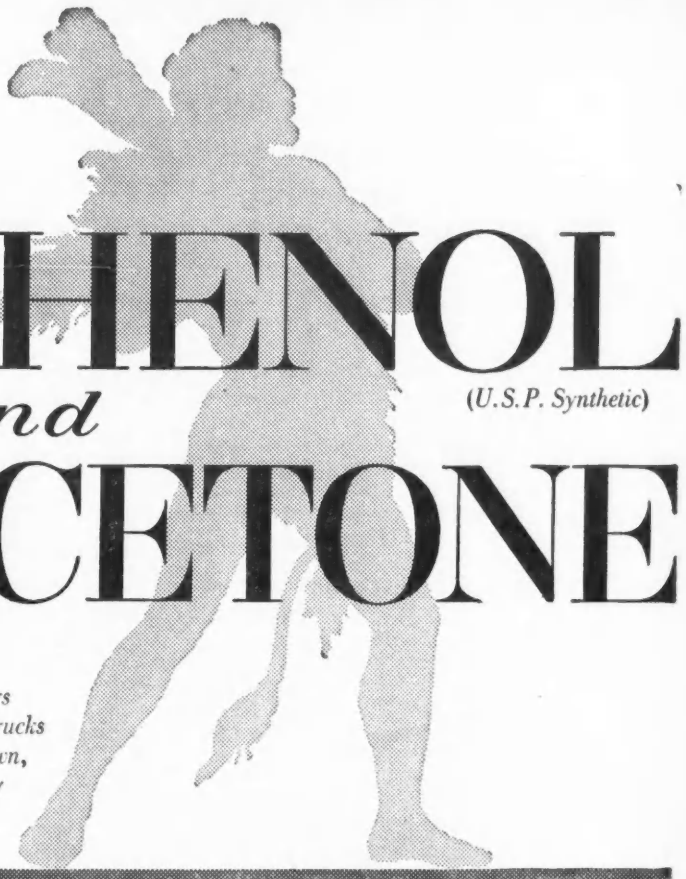

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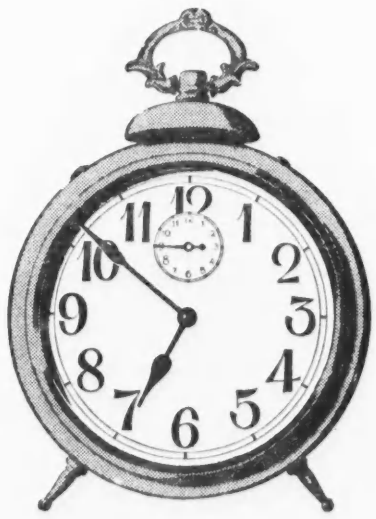

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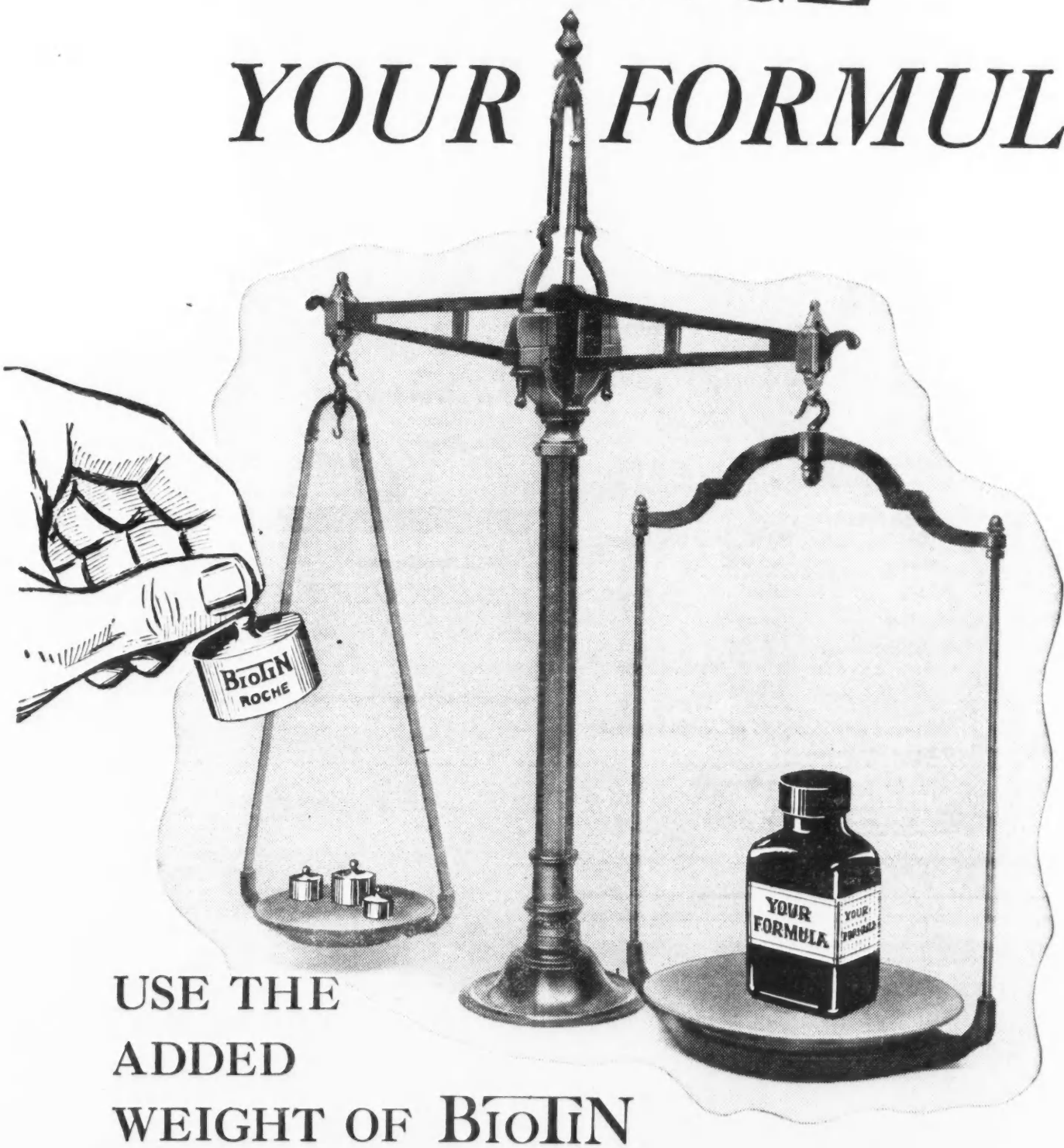

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Drugs, Fine Chemicals

Higher prices on silver salts are coming. Reason for the delay, in light of the 10 cents an ounce increase in silver bullion last week, is the general uncertainty as to what height the raw material price will ultimately reach. The strong market developed following President Kennedy's announcement that he had ordered the Treasury department to suspend sales of government free silver—that not needed to back paper currency. Other innovations in the government's silver policy, which has effectively kept silver prices at a fairly stable level for years, have also been slated and, with congressional action, silver will become a free market.

Although it is not known precisely how much the price of silver determines prices on the salts, existing schedules may provide a clue as to the extent of the expected advance. In recent weeks, with silver at 91⅜ cents an ounce, quote on silver cyanide was 94¾ cents an ounce while silver nitrate was listed at 67¼ cents an ounce.

Contract buyers of lead acetate and potassium acetate started to pay more for these chemicals on December 1. The former went up 3 cents a pound, the latter 2 cents a pound. Changes were effective on spot two weeks ago.

Generally, however, drug and fine chemicals users are getting break after break as far as prices are concerned. Last fortnight, reductions of up to 10 percent were announced for citric acid, esters and salts and a very sizable cut was made in the vitamin E schedule.

In both instances, it was primarily competition among the domestic trade that precipitated the declines, most trade observers believe. For citric, this competition, of course, extends south of the border where the recent completion of a facility in Mexico has apparently cut back exports of the US-manufactured product.

More price reductions will probably be forthcoming as markets crowd up with new producers. Within the past year, for example, two firms have gotten into sodium gluconate and within the past six weeks, two other firms have entered the monosodium glutamate business.

Coupled with import competition, the advent of the latest producer of sodium gluconate has already resulted in a price cut, and MSG prices were reportedly even a bit weak before the new entrants make official announcements.

Ammonium Citrate—Quote on ammonium citrate dibasic was dropped 1c. a pound, to 76c. a pound in a single 250-pound drum, on November 20. Cut simultaneously were these citric acid derivatives:

Potassium citrate, dropped 1½c. a pound, is now listed at 41½c. a pound for a single 250-pound drum.

Sodium citrate anhydrous, also cut 1½c., is now quoted at 60½c. a pound for a single 200-pound drum.

Sodium citrate, USP, reduced 2½c., is listed today at 26½c. a pound in a carload of 100-pound bags, f.o.b. works.

Citric Acid—Citing changes in market conditions both here and abroad, a leading US producer of citric acid and derivative chemicals last fortnight announced reductions in these products of up to 10 percent.

The action was not generally anticipated by observers because demands for the acid for use both in foods and industrial applications have been consistently strong, and, in fact, growing—especially in the latter area where several new developments have only recently been reported.

Competition, however, was obviously the overriding factor. In Mexico, for example, a new citric facility has just come on stream and assumedly production there is being shipped to other Latin American countries as well as serving the Mexican market.

Prior to the completion of the plant, there had been no citric manufacture in Mexico and Latin American demand was supplied primarily by imports from the US.

There are also indications that a US firm which until a year or so ago produced citric only for internal consumption is now aggressively marketing production that resulted from an expansion of its capacity.

New schedules on citric, which went into effect on November 20, list both USP hydrous and anhydrous granular material at 27c. a pound in carload lots of 100-pound bags, at 27½c. a pound for a similar quantity in 250-pound drums.

Formerly, prices on anhydrous material had been uniformly 2c. a pound higher than those of the hydrous. Schedule for powdered citric is still ½c. a pound above the granular.

Monosodium Glutamate — Broadening the line of products it sells to the food industry, a major chemicals producer is set to offer monosodium glutamate. It is the second firm to enter the business within the past six weeks.

Growth of the MSG market is expected to be steady and not too dramatic so the immediate prospect is for greater competition, some price instability. The advantage of having a roster of customers, by virtue of longtime operations, will probably make it appreciably easier for both of the new entrants to make sales, however.

Phenobarbital—Because of imports and competition from a host of newer tranquilizers, the phenobarbital market remains in an unsettled position. Since last summer, however, the price schedule has r[illegible]een changed officially. Established at that time by a 40c. a pound reduction was a listing of $2.85 a pound for 100-pounds.

Prednisolone—Exports of prednisolone in August were valued at $1,028,899, roughly equivalent to July volume. Destination of large shipments: Belgium $199,236; Panama $171,128; West Germany $111,860; Colombia $71,860; Italy $54,390; Argentina $44,238, and India $35,875.

August exports of prednisone were worth $205,465, according to the Commerce department. The larger quantities went to: Panama $74,647; Belgium $73,876; Switzerland $20,895; Vietnam $15,000, and West Germany $12,475.

Sodium Gluconate—Import competition and the entrance of a new producer into the market are thought to be the reasons for the sizable reduction in prices of sodium gluconate early last month.

With the lower schedule, it's felt, imports are going to be cut back appreciably if not removed entirely as a factor in this market. It's also believed that research efforts and the expansion of existing markets will be speeded up. Obviously, this is the requirement now with

Price Trends

Advanced
None

Reduced
None

Comparative Price Indexes
(1926–1949 average)

Last week	Prev. week	Last month	Dec. 2, 1960
58.60	58.60	58.89	59.27

For Current Prices See Page 9

Water-Soluble Gum Imports

Imports of arabic karaya and tragacanth gums for the years 1955 through 1960, as reported by the Bureau of the Census, were as follows:

Year	Arabic	Karaya	Tragacanth
1960	21,472,037	8,076,001	1,748,642
1959	23,361,004	7,133,113	1,134,254
1958	20,447,767	7,626,509	1,136,451
1957	19,151,298	7,161,382	1,221,317
1956	18,676,964	7,014,039	972,151
1955	17,261,736	7,111,122	1,379,405

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four producers in the field, two of whom are newcomers.

Sodium gluconate is a sequestering agent and used principally in bottle washing, rust removal, aluminum etching and in stripping paint from steel.

The carload price is now 30c. a pound in drums, 29½c. a pound in bags.

Streptomycin — Demands from India were largely responsible for the big increase in exports of streptomycin in September. India purchased just under 5 million grams of the total shipment of 8,775,226 grams, which the Commerce department valued at $257,393.

Other buyers were Brazil, Sweden and Vietnam. Throughout the year, India has been a steady buyer of US-manufactured strep; its large requirement is due to the fact that the country is embarked on a large scale tuberculosis eradication program.

Exports of DHS in September were 2,975,949 grams, valued at $97,698. France purchased approximately one-third of the entire quantity.

Vitamin B_{12}—There has been no noteworthy news of late but, according to reports, the market is still relatively stable at the low, low prices posted some months back—in itself a significant development considering the persistent downtrend of the past year.

September exports, the Commerce department says, were worth $62,450. Based on value, the larger shipments went to Canada ($25,150) and Vietnam ($15,746).

Vitamin E—Although vitamin E prices have been reduced from time to time, the persistent, unplanned downtrend that has characterized several other vitamins has not been apparent generally in this market.

Nonetheless, there has been some price erosion as evidenced by the reduction announced last fortnight by one supplier. Actually, lower prices had been in effect since the beginning of November when one or more suppliers informed customers of the lower schedule.

It's suggested that competition among the domestic trade was the most significant factor behind the price cut. Some people also hold that imports have acted as an adverse influence, causing price fluctuations as the US trade moved to meet prices on foreign material.

Because imports are not reported separately by the Commerce department, it's impossible to determine at this juncture the relative strength of the latter factor.

Under new schedules, d-a-tocopheryl acetate is quoted at $91.80 a kilo, dl-a-tocopheryl acetate at $67.50 to $91 a kilo (the spread reflecting a quantity breakdown).

Botanicals

Colchicum seed, which has been in short supply for many months, is just about unavailable today on spot. Furthermore, according to a New York dealer last week, there's no immediate prospect of new offerings. Generally, however, botanicals stocks are adequate.

Barberry Root Bark—Quote on barberry root bark has remained at $1 to $1.10 a pound throughout the year. This stability reportedly is indicative of extremely limited demand for the botanical.

Colchicum Seed—A dealer here reports that little or no colchicum seed is available on spot. Consequently no price is being quoted. In the past year, the price has been consistently high, an uptrend setting in as stocks declined. Root is listed, unchanged, at 35c. to 45c. a pound, f.o.b. New York.

Colocynth Pulp—Market for colocynth pulp is rather inactive at most times, a factor that accounts for the stability of prices. Current listing: 75c. a pound.

Condurango Bark—Not much interest in this item today and so there is little price movement. Unchanged for many months, the quote is 18c. to 20c. a pound.

Dandelion Root—Current interest is good; in fact, this is one of the better-moving botanicals. Routine requirements, adequacy of supply has kept the quote at 35c. to 40c. a pound throughout the year, however.

Euphorbia Herb—Unchanged and stable, the quote on euphorbia herb is 12c. to 15c. a pound. Routine interest is noted.

Gum Arabic—Schedule on amber sorts, according to trade reports last week, is still firm at 21c. to 23c. a pound. There appears to be no unusual market influences.

Drug & Fine Chemical Briefs

DRUG COUNTERFEITING ALLEGED: Warner-Lambert Pharmaceutical Company has filed a complaint in the US District Court for the southern district of New York against Goldman Pharmacy, Inc., alleging the pharmacy is selling "a counterfeit and spurious imitation of 'Peritrate' tablets." The drug, manufactured by the firm's Warner-Chilcott Laboratories division, is used in the treatment of heart disease.

PHS SHIPS VACCINE: Public Health Service has shipped one hundred thousand doses of type I oral polio vaccine to Santiago, Chile, where a polio epidemic has claimed scores of victims. The vaccine is being supplied from the reserve maintained at the service's Communicable Disease Center in Atlanta, Ga. Funds for the reserve were requested by President Kennedy and authorized by congress last spring.

PFIZER EXPANDING: Chas. Pfizer & Co. is constructing an eight-story building adjacent to its Brooklyn, N.Y., production facilities. To be completed in December 1962, the new structure will provide 160,000 square feet for packaging operations and the consolidation of warehousing activities now conducted in rented buildings several miles from the plant.

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LOS ANGELES SAN FRANCISCO PORTLAND, ORE.

PROGRAM BOSS: John Charles Lukman, elected vice-president of Wica Chemicals, Inc. He will direct the company's entire technical program.

that the demand pattern in the major fields supporting the chemical industry in the Pacific northwest will probably continue with little change.

"However," he went on, "a re-ordering of market emphasis also will continue, particularly with respect to research and diversification. The influence of population will undoubtedly be one of the important factors contributing to this change in emphasis. As urban centers increase in size and number, there will be a demand for chemicals which can be expected to feed the momentum of the diversification.

New Faces to Appear

"As this occurs," he said, "existing companies will participate according to interest, desires and corporate energy. New faces will appear in a number of fields, both on the buying and selling sides.

"In other words, the population explosion about which we hear so much, when it is interpreted with respect to the Pacific Northwest, may, in the foreseeable future, prove to be the catalyst which will permit the chemical industry of this area to say for the first time, 'it is its own best customer.'"

Chemical Mart of West

—Continued from page 7

chemicals are virtually excluded from the industrial activity of the area although there is a wealth of raw materials. We can expect steady growth for inorganic chemicals based upon the natural resources of the area despite the uncertainties of and in the final analysis it is that vast mineral production. We do not foresee a significant development in organic chemical production for the immediate future.

"The three metropolitan areas of the Rocky Mountain states, Denver, Phoenix, and Salt Lake City, are growing more rapidly than the national average and increased population should promote the establishment of consumer chemicals industry."

Hugo Riemer, president of United States Borax & Chemical Corporation, analyzed the market in Southern California for the CMRA audience. In spite of the fact that total population in the area represents 5.6 percent of the nation's total—as does average manufacturing activity—only 3 percent of the country's chemical and allied products manufacturing is located there, he said.

Within this category, he added, there are some strong and important segments; there are also some that are not so strong.

"The most important nationally—industrial inorganic and organic—is very weak here; only 2.1 percent. Owing to our missile activity, however, the production of industrial gases maintains a healthy pace within this category, 6.4 percent," Mr. Riemer said.

"Inorganic pigments is small now—a paltry 0.3 percent. This segment can be expected to reflect significant gains upon completion of the announced titanium dioxide plant in the Mojave Desert.

Plastics Well Represented

"Plastic materials," he went on, "are quite well represented with 4.8 percent of the nation's total, but there is room for improvement, particularly when we find that plastic fabrication stands at 6.5 percent.

"Synthetic rubber is strong, as might be expected, since Southern California constitutes a major market for automobiles and other vehicles. Fibers, both cellulosic and synthetic organic, check in at zero. The most significant reason has already been explored: no textile industry.

"The drug industry is small; therefore, it provides no major chemical markets. Gum and wood chemicals hardly exist because there are virtually no raw materials in the area," he explained.

"The agricultural chemicals industry presents a rather interesting but strange picture. California is the No. 1 state in farm products with 9 percent of the nation's production, 3.2 percent of which comes from Southern California.

"The state as a whole consumes more ammonia than any other state (10 percent of the USA's total), but not so much phosphate or potash. This accounts for the relatively small fertilizer manufacturing and fertilizer mixing industry. Agricultural pesticides, however, show a good proportion of the nation's total—7.3 percent," Mr. Riemer stated.

Speaking on his assigned section, the Pacific Northwest, Fred C. Shanaman, a past president of Pennsalt Chemical Corporation of Washington, told the group

3 NEW LIQUID SPECIALTIES

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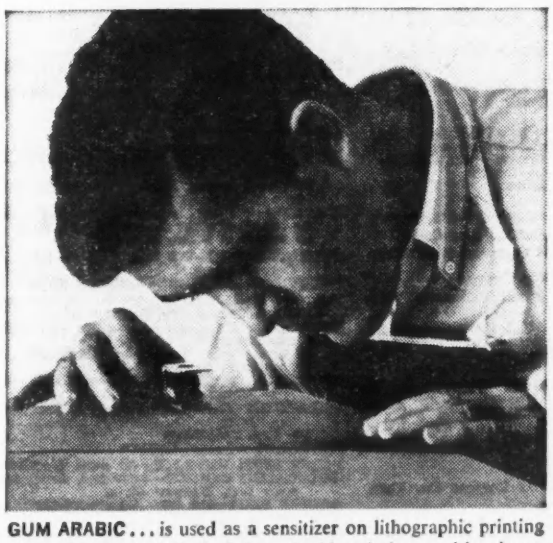

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AMMONIUM PERSULFATE—200 dms, Mohegan International Inc, Rotterdam
AMMONIUM SULFATE—20 dms, Terra Chemicals Inc, Bremen
AMYRIS OIL—6 dms, Olfactors Inc, Port Au Prince
7 dms, Port Au Prince
ANILINE DYES—159 dms, Heemsoth Kerner, Liverpool
6 dms, L & R Organic Products Co, Liverpool
12 dms, D Young, Liverpool
23 dms, Carbic Hoechst Corp, Rotterdam
41 dms, Geigy Chemical Corp, Bremerhaven
31 dms, Sandoz Inc, Havre
2 dms, Verona Dyestuffs, Bremen
83 dms, Rotterdam
ANISE SEED—100 bgs, Izmir
120 bgs, Vera Cruz
ANNATTO SEED—100 bgs, Foreign Domestic Distributors, Callao
265 bgs, Marcel Calvet, Puna
145 bgs, Callao
ANTIMONY OXIDE—50 bgs, Indussa Corp, Antwerp
492 bgs, Havre
ANTIMONY REGULUS—388 cs, Metalchemical Corp, Rijeka
ARABIC GUM—751 bgs, Bankers Trust Co, Port Sudan
250 bgs, Brown Bros, Port Sudan
549 bgs, Irving Trust Co, Port Sudan
751 bgs, Chemical Bank, Port Sudan
100 bgs, Stein Hall & Co, Port Sudan
380 bgs, Port Sudan
ARSENIC, METALLIC—50 dms, Kolon Trading Co, Gothenburg
ASBESTOS FIBER—2,400 bgs, Johns Manville Corp, Lourenco Marques
BARIUM CARBONATE—200 bgs, Eutectic Welding Alloys Corp Rotterdam
BEESWAX—280 bgs, Balmore & Co, Istanbul
56 bgs, H H Pike & Co, Tampico
55 bgs, Baldini & Co, Tampico
95 blks, Wm Diehl & Co, Djibouti
90 blks, Cornelius Wax Refining Corp, Djibouti
75 bgs, Smith & Nichols, Porto Alegre
15 bgs, Smith & Nichols, Cutuco
33 bgs, Port Au Prince
155 bgs, Dares Salaam
84 bgs, Porto Alegre
190 blks, Assab
BELLADONNA ROOT—20 bgs, S B Penick & Co, Salonika
BENZOCAINE—20 kgs, Gothenburg
CAFFEINE—20 dms, D Hauser, Bremen
CALCIUM CARBONATE—3,610 bgs, Whittaker Clark & Daniels, Liverpool
700 bgs, Pluess Staufer, Antwerp
CALCIUM CARBONATE, PRECIPITATED—600 bgs, Liverpool
CALCIUM HYPOCHLORITE—100 dms, Yokohama
CAMPHOR—200 cs, Hostachem Corp Bremen
100 cs, Prentiss Drug & Chemical Co, Kobe
CAMPHOR OIL—50 dms, Magnus Mabee & Reynard, Yokohama
CANDELILLA WAX—175 bgs, M Argueso & Co, Tampico
313 bgs, Tampico
CARAWAY OIL—4 dms, George Uhe Co, Rotterdam
CARAWAY SEED—300 bgs, Louis Furth, Gdynia
200 bgs, R J Spitz, Rotterdam
1,000 bgs, Hoger Corp, Gdynia
700 bgs, Rotterdam
CARNAUBA WAX—200 bgs, Latina Trading Corp, Salvador
CASEIN—1,000 bgs, Crawford Kish & Co, Gdynia
1,000 bgs, Buenos Aires
363 bgs, Hamburg
CASHEWNUT SHELL LIQUID—143 dms, Durez Plastics, Cochin
CASSIA—625 bls, Van Norden & Co, Saigon
654 bls, A G Dunn, Saigon
CASTOR BEANS—2,574 bgs, Baker Castor Oil Co, Bahia de Caraquez
1,420 bgs, Baker Castor Oil Co, Manta
CASTOR OIL—500 tons, Anderson Clayton & Co, Santos
CHLORINATED RUBBER—200 bgs, Chemical Manufacturing Co, Liverpool
400 bgs, C M C Chemicals Inc, Liverpool
CINNAMON BARK—106 bgs, L A Champon & Co, Mombasa
CINNAMON QUILLS—250 bls, Delano Corp of America, Colombo
65 bls Max Van Pels, Colombo
175 bls, Curacao Trading Co, Colombo
CITRONELLA OIL—11 dms, Balfour Guthrie, Galle
11 dms, Volkart Bros, Colombo
COBALT OXIDE—120 cks, Antwerp
COCONUT OIL—1,542 tons, Baker Commodities Inc, Legaspi
800 tons, Bank of America, Zamboanga
1,361 tons Manila
5 bls, S B Penick & Co, Salonika
COPAL GUM—240 bgs, S Winterbourne & Co, London
COPPER CYANIDE—200 dms, Chemical Manufacturing Co, Liverpool
CORIANDER SEED—200 bgs, Ideal Trading Co, Casablanca
900 bgs, Casablanca
CORN OIL—152 tons, Seamon de Ryss Inc Rotterdam
CORN STARCH—2,000 bgs, Impex Agricultural Co, Rijeka
100 bgs, Manhattan Adhesives Corp, Bremen
448 bgs, Rotterdam
350 bgs, Amsterdam
600 bgs, Capetown
CREAM OF TARTAR—500 bgs, Leonhardt & Brush, London
200 bgs T M Duche & Sons, Genoa
100 dms, Barcelona
CUMIN SEED—2,330 bgs, Khorramshahr
DEXTRIN—700 bgs, Stein Hall & Co, Rotterdam
660 bgs, Morningstar Paisley Inc, Rotterdam
175 bls, Rotterdam
610 bgs, Rotterdam
500 bgs, Amsterdam
DICYANODIAMIDE—800 bgs, Okura & Co N Y Inc, Yokohama
FERRIC SULFATE—50 dms, Hudson Shipping Co, Liverpool
FISHLIVER OIL—10 dms, Mitsubishi Corp, Yokohama
FURFURAL—2,798 tons, E I DuPont de Nemours & Co, La Romana
GAMMA ACID—101 dms, Genoa
GELATIN—35 dms, H Bruckmann & Lorbacher, Rotterdam
220 dms, D H Burdett, Liverpool
890 bgs, First National Boston, Hamburg
51 cks, Havre
GENTIAN ROOT—300 bls, S B Penick & Co, Thessaloniki
GINGER—80 bgs, London
I-GLUTARIC ACID—30 dms Ajinomoto Co, Yokohama
GLYCEROPHOSPHORIC ACID — 2 dms, Hudson Shipping Co, Liverpool
GRAPHITE—225 bgs, Asbury Graphite Mills, Bremen
575 bgs, Asbury Graphite Mills, Colombo
GUAR GUM—3,655 bgs, Stein Hall & Co, Calcutta
500 bgs, T M Duche & Sons, Rotterdam
GYPSUM—273 dms, Hammill & Gillespie, Liverpool
800 bgs, Whittaker Clark & Daniels, Liverpool
GYPSUM CRUDE—9,941 tons, U S Gypsum Co, Hantsport
10,116 tons, U S Gypsum Co, Little Narrows
11,345 tons, Allied Chemical Corp, Halifax
HELLEBORE ROOT—134 bls, S B Penick & Co, Salonika
HEXACHLOROETHANE—270 bgs, Chemical Manufacturing Co, Liverpool
IRON BLUE—7 pallets Van Oppen & Co, Liverpool
13 dms, Van Oppen & Co, Liverpool
IRON CARBONYL—27 dms, General Aniline & Film Corp, Rotterdam
IRON OXIDE—300 bgs, C B Chrystal Co, Malaga
441 bgs, Whittaker Clark & Daniels, Malaga
ISONIAZID—40 kgs, Gothenburg
ISOQUINOLINE—9 dms, G A Abood, Rotterdam
JUNIPER BERRIES—166 bgs, K H Landes & Co, Leghorn
LACTIC ACID—100 dms, A Miller Co, Liverpool
26 cks, Havre
LACTOSE—40 dms, D Hauser, Rotterdam
LAUREL LEAVES—750 cs, Izmir
300 bls, Leixoes
LAVANDIN OIL—8 dms, Lo Curto & Funk, Cannes
8 dms, Tombarel Products Corp, Cannes
21 dms, Polarome Manufacturing Co, Cannes
10 cks, Coutin Associates, Cannes
32 cks, Brown Bros, Cannes
2 cks, Cannes
LAVENDER OIL—8 dms, Lo Curto & Funk, Cannes
LEAD OXIDE—60 dms, J J Gavin, Vera Cruz
LEAD, RED—200 bgs, Revelli Chemical Co, Rotterdam
184 dms, Eagle Picher Co, Tampico
LEAD, WHITE—400 bgs, Revelli Chemical Co, Rotterdam
LEMON OIL—15 dms, Lo Curto & Funk, Vera Cruz
2 dms, Fritzsche Bros, Vera Cruz
221 cs, Fritzsche Bros, Messina
LEMON PEEL—126 bls, Meer Corp, Alicante
LEMONGRASS OIL—6 dms, Lo Curto & Funk, Cochin
3 dms, East Asiatic Co, Bangkok
12 dms, Cochin
LIME OIL—1 dm, Citrus & Allied Essential Oils Co, Puerto Plata
2 dms, Port Au Prince
LITHARGE—50 dms, Hercules Powder Co, Vera Cruz
368 dms, Eagle Picher Co, Tampico
LITHOPONE—800 bgs, C J Osborn Co, Rotterdam
LIVERMEAL—800 bgs, Montevideo
LOCUST BEAN GUM—400 bgs, Stein Hall & Co, Liverpool
209 bgs, P A Dunkel, Rotterdam
150 bgs, T M Duche & Sons, Rotterdam
100 bgs, Jacques Wolf & Co, Portimao
500 bgs, Barcelona
MAGNESITE—400 bgs, Smith Chemical & Color Co, Rotterdam
MANGROVE EXTRACT — 360 bgs, Saxe Cutch Corp, Singapore
MARJORAM—54 bgs, Norwalk Mills, Ciudad Trujillo
MELAMINE—440 bgs, Baird Chemical Industries, Yokohama
800 bgs, Stockholm
MENTHOL—15 cs, Magnus Mabee & Reynard, Keelung
100 cs, Mitsui & Co, Santos
25 cs, P A Dunkel, Santos
11 dms, Cannes
MERCURY—40 flks, Continental Metals Corp, Tampico
50 flks, Lo Curto & Funk, Tampico
10 flks, Tampico
METHYLENE CHLORIDE—1,645 tons, C P Steuber & Co, Antwerp
MONTAN WAX—100 bgs, G S Ziegler & Co, Bremen
40 bgs, Rotterdam
MUSK, ARTIFICIAL—28 dms, Roure-Dupont Inc, Rotterdam
20 dms, Lo Curto & Funk, Rotterdam
MUSTARD SEED—1,600 bgs, Montana Mustard Seed Co, Copenhagen
500 bgs, George Uhe Co, Copenhagen
100 bgs, Levy & Levis Co, Copenhagen
400 bgs, Interamerican Grain Co, Copenhagen
1,000 bgs, Ellison Milling & Elevator Ltd, Copenhagen
5,500 bgs, Berns & Koppstein, Copenhagen
13,600 bgs, R T French, Copenhagen
1,602 bgs, P J Anderson & Sons, Copenhagen
204 bgs, R T French, London
300 bgs, Southgate Foods Inc, Copenhagen
1,500 bgs, D Young, Copenhagen
200 bgs, Kellys America Ltd, Copenhagen
665 bgs, Old Dutch Mustard Co, Rotterdam
800 bgs, Louis Furth, Copenhagen
760 bgs, F Henjes Jr, Copenhagen
NAPHTHALENE—500 bgs, Ore & Ferro Corp, Rotterdam
906 bgs, Gallard Schlesinger, Antwerp
1,334 bgs, Antwerp
NAPHTHENIC ACID—150 dms, Esso Petroleum Co, Cartagena
NIGER SEED—177 bgs, Massawa
OLEYL ALCOHOL—26 dms, Olympic Shipping Co, Liverpool
30 dms, Jamex E Fox, Yokohama
OLIBANUM GUM—200 bgs, Aden
OLIVE OIL—15 dms, J Ossola Co, Genoa
235 dms, Malaga
306 dms, Seville
OPIUM—100 cs, Merck & Co, Calcutta
ORANGE OIL, BITTER—2 dms, Citrus & Allied Essential Oils Co, Puerto Plata
ORANGE PEEL—92 bls, Meer Corp, Alicante
OREGANO—663 bgs, I7 Marmorek & Son, Tampico
OURICURY WAX—40 bgs, M Schmidt, Salvador
b-OXYNAPHTHIC ACID—90 dms, Rotterdam
PALM OIL—231 tons, Belawan Deli
PAPAIN—50 cs, American Ferment Co, Colombo
9 dms, Mombasa
84 cs, Mombasa
PAPRIKA—200 bgs, Ludwig Mueller, Alicante
500 bgs, A A Sayia, Alicante
75 bgs, M A Polazzi, Alicante
200 bgs, W L Willner, Alicante
25 bgs, J H Elton, Alicante
100 bgs, A G Beckmann, Alicante
125 bgs, Thomson Taylor Spice Co, Alicante
500 bgs, M J Golombeck, Hamburg
600 bgs, P H Petry, Hamburg
PATCHOULI OIL—8 dms, International Products Corp, Penang
24 dms, London
PECTIN—78 dms, T M Duche & Sons, Copenhagen
PENTAERYTHRITOL—600 bgs, Baird Chemical Industries, Gothenburg
499 bgs, D Hauser, Yokohama
10 kgs, Gothenburg
PEPPER, BLACK—2,062 bgs, Ludwig Mueller, Tandjong Priok
350 bgs, Ludwig Mueller, Singapore
50 bgs, Max Van Pels, Singapore
80 bgs, Lelano Corp of America, Singapore
560 bgs, A G Dunn, Cochin
420 bgs, A G Dunn, Singapore
240 bgs, Cochin
PEPPER, RED—100 bgs, East India Trading Co, Kobe
200 bgs, East India Trading Co, Yokohama
300 bgs, M J Golombeck, Kobe
200 bgs, Mitsubishi Corp, Kobe
244 bgs, Mombasa
200 bgs, Yokohama
PEPPER, WHITE—70 bgs, Montreal Trading Co, Singapore
960 bgs, Magna Enterprises, Singapore
140 bgs, A G Dunn, Singapore
PIMENTO—400 bgs, Hudson Shipping Co, Alicante
50 bgs, Gallagher & Ascher, Alicante
25 bgs, J H Elton, Alicante
POLYETHYLENE—589 bgs, J B Henriques Sales Corp, Liverpool
POLYVINYL ALCOHOL—350 bgs, Kobe
POPPYSEED—200 bgs, Sokol & Co, Rotterdam
150 bgs, P H Petry, Rotterdam
POTASSIUM CYANIDE—175 dms, Chemical Manufacturing Co, Liverpool
50 dms, Ugine Industries, Liverpool
300 dms, D Hauser, Hamburg
POTASSIUM FERRICYANIDE—242 bbls, Atlantic Raw Materials, Hamburg
POTASSIUM NITRATE—300 bgs, Tar Residuals Inc, Trieste
100 bgs, Rotterdam
PROCAINE—50 dms, Bremen
PYRETHRUM EXTRACT—20 dms, Mombasa
QUEBRACHO ETRACT—5,043 bgs, American Tanners Ltd, Buenos Aires
QUINCE SEED—100 bgs, Khorramshahr
SAGE LEAVES—200 bls, V A Cordovi, Rijeka
SAPONIN—20 dms, Karr Ellis, Liverpool
23 dms, A K Peters Co, Hamburg
SARSAPARILLA ROOT—98 bls, F D Keller & Son, Tampico
SAVORY LEAVES—200 bls, Louis Furth, Rijeka
SESAME SEED—440 bgs, Levy & Levis Co, Corinto
500 bgs, Louis Furth, Corinto
SESAME SEED, HULLED—950 bgs, Nieman Bros, Corinto
1,000 bgs, Archibald & Kendall, Corinto
300 bgs, M J Golombeck, Corinto
100 bgs, R J Spitz, Corinto
200 bgs, Biddle Purchasing Co Corinto
500 bgs, Joyva Corp, Corinto
1,300 bgs, Louis Furth, Corinto
220 bgs, Sokol & Co, Corinto
150 bgs, Levy & Levis Co, Corinto
500 bgs, A A Savia, Corinto
100 bgs, J Bieler, Corinto
SHELLAC—100 bgs, F H Paul & Stein Bros Bremen
SODA, CAUSTIC—96 dms, B T Chemco Inc, Gothenburg
SODIUM BICARBONATE—500 bgs, Chemical Manufacturing Co, Liverpool
SODIUM BROMATE—150 dms, Rotterdam
SODIUM CARBONATE MONOHYDRATE—30 bgs, Yardley of London, Liverpool
SODIUM CYANIDE—990 dms, Chemical Manufacturing Co, Liverpool
240 dms, Ugine Industries, Liverpool
SODIUM CYCLAMATE—10 dms Rotterdam
SODIUM PERBORATE TETRAHYDRATE — 1,200 bgs, Chemical Manufacturing Co, Liverpool
SODIUM SULFATE—1,000 bgs, Yokohama
SPEARMINT LEAVES—19 cs, S B Penick & Co, Alexandria
STARCH—200 bgs, Manhattan Adhesives Corp, Bremen
300 bgs, Rotterdam
STRAMONIUM LEAVES—152 bls, S B Penick & Co Salonika
STRAWBERRY LEAVES—20 bls, S B Penick & Co, Rijeka
TAPIOCA FLOUR—4,480 bgs, Brown Bros, Kohsichang
672 bgs, Manhattan Adhesives Corp, Penang
988 bgs, Geismar & Co, Kohsichang
600 bgs, P A Houghton, Kohsichang
THYME LEAVES—200 bgs, Seeck & Kade, Alicante
TONKA BEANS—139 bbls, Kennedy Buttner Co, La Guaira
TRAGACANTH GUM—50 bgs, Am-Iran Corp, Khorramshahr
37 cs, Meer Corp. Khorramshahr
40 cs, Khorramshahr
TRICHLOROETHYLENE—100 dms, Chemical Manufacturing Co, Liverpool
ULTRAMARINE BLUE—40 bgs, Whittaker Clark & Daniels, London
UREA—3,992 bgs, Chemical Manufacturing Co, Liverpool
VANILLA BEANS—20 cs, F Huber & Co, Mombasa
VERBASCI LEAVES—62 bls, S B Penick & Co, Thessaloniki
WATTLE BARK—1,624 bls, Bowring & Co, Capetown
WATTLE EXTRACT—318 bgs, International Products Corp, Mombasa
501 bgs, Barkey Importing Co, Durban
WHEAT GERM OIL—15 dms, Peder Devold Oil Co, Bremen
YACCA GUM—225 bgs, Port Adelaide
ZINC OXIDE—840 bgs, Hercules Powder Co, Vera Cruz
ZINC WHITE—300 bgs, Revelli Chemical Co, Antwerp
ZINC YELLOW—200 bgs, Revelli Chemical Co, Antwerp

Los Angeles

AMMONIUM CHLORIDE—799 bgs, Chemical Manufacturing Co, Liverpool
CALCIUM CARBONATE—2,000 bgs, H R Hunt, Antwerp
CARAWAY SEED—150 bgs, R J Spitz, Rotterdam
CASEIN—200 bgs, Pacific National Bank, Melbourne
CASSIA—350 bls, Hismoco American Co, Saigon
CASTOR OIL—420 tons, Baker Castor Oil Co, Recife
COPRA—2,006 tons, Cargill Inc, Iloilo
HYDROFLUORIC ACID—80 dms, Western Chemical Co, Liverpool
IRON OXIDE—80 bbls, Los Angeles Chemical Co, Malaga
LOCUST BEAN GUM—100 bgs, Hathaway Allied Products, Amsterdam
100 bgs, Hathaway Allied Products, Rotterdam
MOLASSES—16 tons, Swestern Sugar & Molasses Co, Vera Cruz
MUSTARD SEED—600 bgs, Walker Products, Havre
OREGANO—600 bgs, H M Newhall & Co, Salina Cruz
PEPPER, WHITE—35 bgs, Singapore
PEPPER, BLACK—70 bgs, C Czarinkow, Singapore
PEPPER, RED—60 bgs, California Commodities Corp, Yokohama
POLYVINYL ALCOHOL—300 bgs, Kobe
POPPYSEED—200 bgs, Hismoco American Co, Rotterdam
RUTILE SAND—25,918 bgs, Titanium Metals Corp, Brisbane
500 bgs, G Young, Brisbane
6,028 bgs, J De Porter, Brisbane
SESAME SEED—300 bgs, H M Newhall & Co, Corinto
100 bgs, R J Spitz, Corinto
SODIUM BICARBONATE—800 bgs, Chemical Manufacturing Co, Liverpool
SODIUM CYANIDE—200 dms, Chemical Manufacturing Co, Liverpool
TRICHLOROETHYLENE—160 dms, Chemical Manufacturing Co, Liverpool
ZIRCON SAND—353 bgs, Frank Samuel & Co, Newcastle
2,263 bgs, Frank Samuel & Co, Brisbane
40 bgs, Metal & Thermit Corp, Brisbane

Philadelphia

CASEIN—1,000 bgs, Crawford Kish & Co, Gdynia
FLUORSPAR—7,896 tons, Continental Ore Corp, Tampico
GLYCERINE—336 tons, Procter & Gamble Co, Manila
GYPSUM, CRUDE—11,234 tons, National Gypsum Co, Halifax
NAPHTHALENE—500 bgs, Ore & Ferro Corp, Rotterdam
100 bgs, Antwerp
PEPPER, BLACK—240 bgs, Otto Gerdau, Cochin
160 bgs, Cochin
POTASSIUM BICARBONATE—907 bgs, French Potash Co, Antwerp

San Francisco

CASEIN—588 bgs, J R Spellacy, Sydney
COPRA—500 tons, Cargill Inc, Cebu
1,000 tons, Cargill Inc, Tacloban
FISHMEAL—7,196 bgs, Marine & Animal By Products Corp, Callao
4,848 bgs, Marine & Animal By Products Corp, Chimbote
12,479 bgs, Star Kist Foods, Chimbote
19,566 bgs, Callao
20,871 bgs, Chimbote
GYPSUM, CRUDE—10,086 tons, Kaiser Gypsum Co, San Marcos
PEPPER, RED—93 bgs, California Commodities Corp, Kobe
POLYVINYL ALCOHOL—720 bgs, Kobe
SODIUM CYANIDE—400 dms, Chemical Manufacturing Co, Swansea
THYME LEAVES—390 bgs, B C Ireland, Marseille
UREA—297 bgs, Chemical Manufacturing Co, Swansea
12,500 bgs, Wilson & Geo Meyer & Co, Heroya

Bids Wanted

Benzalkonium Chloride Tincture, tinted 1:1000; 2 CC, 77,184 btl. Bid IFB 32-383-62B Dec. 13. Military Medical Supply Agency, 3rd Avenue and 29th Street, Brooklyn 32, N. Y.

Enamel, Spec. MIL-E-10214A, 864 pails, delivery to NSC, Bayonne, N. J. Bid IFB 63077-1371-62B Dec. 15. Military Industrial Supply Agency, 700 Robbins Avenue, Philadelphia 11, Pa.

Enamel, Outdoor sign painting, term contract, 19 items, indefinite quantity, from date of award through 12/31/62. Bid IFB KCW-F-3362 Dec. 19. General Services Administration, Region 6, Business Service Center, 2306 E. Bannister Road, Kansas City 31, Mo.

Fertilizer, Ammonium Sulfate, 400 tons. Bid IFB AIV 41-014-62-60-B Dec. 19. Bid sets available until exhausted. Purchasing and Contracting Office, Fort Bliss, Tex.

Gases, Compressed and Liquefied, FSC Group 68, Part III (formerly Class 51, Part III), USP and technical: **Nitrous Oxide,** USP. **Oxygen,** industrial and medical, Fed. Spec. BB-O-925 and Amend. 1, USP. **Acetylene,** technical, Fed. Spec. BB-A-106 and Amend. 2. **Ammonia,** technical, anhydrous, Fed. Spec. O-A-445 and Amend. 1. **Carbon Dioxide,** technical, compressed, Grade B, Type II, Class I, Fed. Spec. BB-C-101. **Hydrogen,** technical, Fed. Spec. BB-H-886 and Interim Amend. 1. **Nitrogen,** technical, Fed. Spec. BB-N-411A, type I, gaseous. **Oxygen,** Type I, Grade B, Fed. Spec. BB-O-925 and Amend. 1. **Air, Compressed,** water-pumped, technical. Argon, water- pumped, oil free, colorless, Bureau of Ships Spec. MIL-A-18455A (Ships) dtd 2 7 58. **Chlorine,** technical, low-pressure, liquefied, Fed. Spec. BB-C-120 dtd 3/31/55. **Gas, Compressed, Chlorofluor Hydrocarbons** (of methane and ethane series), Interim Fed. Spec. BB-C-003100 dtd 11/4/54. **Carbon Dioxide,** technical (dry ice), Fed. Spec. BB-C-104 and Amend. 1. Delivery to states of Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina and Tennessee, for period 1/1/62 through 11/30/62. This is a supply schedule contract. Bid IFB AT/FS-158 Dec. 19. General Services Administration, Region 4, Business Service Center, 50 Seventh Street N.E., Atlanta 23, Ga.

Paint, Antifouling, Spec. MIL-P-19452 (Ships), 125,460 lb., various destinations. Bid IFB 63077-1328-62B Dec. 8. **Paint, Antifouling,** Spec. MIL-P-15931A, 1,140 pails, various destinations. Bid IFB 63077-1370-62B Dec. 18. **Primer Coating,** Spec. MIL-P-00735A (Ships), 4,952 gal., delivery to NSC, Oakland, Calif. Bid IFB 63077-1338-62B Dec. 11. **Primer Coating,** Spec. MIL-P-7962B (ASG (QPL), 1,387 cans, delivery to NSC, Norfolk, Va. Bid IFB 63077-1331-62B Dec. 21. Military Industrial Supply Agency, 700 Robbins Avenue, Philadelphia 11, Pa.

Solvents and Inhibitors, including perchloroethylene, trichloroethane, and liquid corrosion inhibitor and lubricant, definite quantities, T C period of six months from date of award. Bid IFB SFU-125-62 Dec. 12. General Services Administration, Region 9, Business Service Center, 49 Fourth Street, San Francisco, Calif.

Ethylene, Hydrogen, Naphtha Due From German Refinery

The new Caltex refinery at Frankfurt, Germany, sited there with the active solicitation of Farbwerke Hoechst AG, seeking petrochemical raw materials, will have an ethylene plant producing 70,000 tons a year, a 13 million cubic feet a day hydrogen plant and a pyrolysis naphtha plant. The refinery itself will process 2 million tons of crude oil yearly.

Engineering and construction of the refinery and the ethylene plant will be handled by Kellogg International, a subsidiary of M. W. Kellogg Company.

Kefauver Bill Opponents

—*Continued from page 4*

intends to have testify, and said that there may be more. The Manufacturing Chemists Association also will have a witness at the final day's hearing on Saturday.

PMA witnesses will include Eugene Beasley, president, and Dr. Thomas Carney, director of research, of Eli Lilly & Co.; Eugene Rostow, of Yale Law School; George Frost, Chicago patent attorney; Dr. Vannevar Bush, chairman of Merck & Co.; Dr. Ernest Volwiler, of Abbott Laboratories; John T. Connor, president of Merck & Co.; Dr. Theodore G. Klumpp, president of Winthrop Laboratories, and Dr. C. J. Cavallito, director of research for Erwin Neisler & Co.

PMA expects to complete the presentation of its testimony on Thursday and Friday. Robert B. Semple, chairman of the MCA executive committee, and president of Wyandotte Chemicals Corporation, and Robert Larson, president of the American Patent Law Association, will close out the hearings.

Miles W. Kirkpatrick, representing the antitrust section of the American Bar Association, previously planned to testify on the bill, but it is now understood that he will file a statement instead.

Bowman-Philips Roxane Correction

In reporting the signing of a continuing marketing agreement by Charles Bowman & Co. and Bowman Feed Products, Inc., with Philips Roxane, Inc., in the previous issue, OPD erroneously stated that the Thompson companies have opened a new sales office in the Daily News Building in midtown New York. Actually, it was the Bowman companies which opened the new sales office. Bowman has distributed the Philips' line of vitamin D products in this country since their introduction here ten years ago. It has no connection whatever with the Philips'-owned Thompson-Hayward Chemical Company.

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Essential Oils, Aromatics

Mexican vanilla beans continue to climb upward due to scarcity of material. Cut material remains firm at its previous price and whole material advanced 50 cents per pound. Bourbon material is steady due to good supply and strong price control exercised by the Malagasay Republic. Lemon oil is wavering in price on the eve of the appearance of new crop material. Trade sources estimate that this new oil will be well able to satisfy a strong demand. Some say that the crop will yield from 1½ to 2 million pounds of oil. Sandalwood continues scarce and high priced, but dealers expect some easement after the auctions in India later this month.

Geranium is definitely firm following reports of drought conditions in the producing regions. The crop is said to be a large one, but there is some danger of widespread damage due to lack of rain. Spot prices continue around the $12 level with some listings considerably higher.

Since 1935, production of citrus fruit increased substantially, yet did not quite reach the level of non-citrus, which showed no market trend, according to the 1962 Agricultural Outlook Chartbook published by the USDA.

Total output of fruit gained at a faster rate than population until 1947, thereafter at a slower pace. Use of both citrus and non-citrus fruit for processing has continued to increase during postwar years.

In recent years, considerably more fruit has been processed, especially canned and frozen, than used fresh. Per capita consumption of fruit—fresh and processed combined—on a fresh equivalent basis, has tended to level off at 200 pounds in postwar years. But over the same years, per capita consumption of frozen fruit and fruit juices has mounted greatly, while that of fresh and dried has declined. Increases in canned fruit about offset decreases in canned fruit juices.

Since 1947, production of oranges, the leading citrus fruit, has advanced considerably, but production of grapefruit has not changed greatly in level. Output of lemons has tended to increase, especially in recent years.

The report goes on to say that fruit exports to Canada and Western Europe (the best markets for these products) have increased greatly during the past 10 years. Shipments to Canada are more than double the 1950 level and those to Western Europe are approximately triple. In 1960, almost 84 percent of fruit exports, worth $208 million, went to the above areas. Total fruit exports have leveled off since 1956.

The value of exports of canned and frozen fruit have tripled over the decade; fresh fruit exports have doubled; and dried fruit exports rose 50 percent.

This trend toward increased trade in processed fruit is expected to continue as incomes rise in Western Europe and as the supermarket type of retailing gains ground. An inequitable establishment of external tariffs of the Common Market would cause a reversal of these trends, the report suggested.

Price Trends

Advanced
Vanilla beans, Mexcian whole, 50c. per lb.

Reduced
None

Comparative Price Indexes
(100 = 1949 average)

Last week	Prev. week	Last month	Dec. 2, 1960
143.53	143.47	142.46	145.72

For Current Prices See Page 9

Essential Oils

Bois de Rose—Linalool and linalyl acetate are now being produced in the US from pine, according to the Commerce Department.

The result of this has been a sharp drop in imports of bois de rose oil, ordinarily the source of these two aromatics.

Peru has been the principal supplier of bois de rose with Brazil getting a lesser share of the market. The extent to which their sales have been curtailed in the United States is shown by the fact that January-August shipments this year amounted to 160,800 pounds compared with 521,904 pounds in all of 1960, according to the US Census Bureau.

Imports Detained at N. Y.

Two-Week Period Ending Nov. 17

Black peper, 2 lots, 426 bags.
Cassia, 15 lots, 1,602 bales.
Coriander seed, 4 lots, 1,150 bags.
Mace, 5 lots, 140 cases.
Marjoram, 32 bags.
Oregano, 387 bags.
Pimento, 25 bags.
Sesame seed, 441 bags.

Geranium—Reports of drought conditions in the producing regions have caused spot prices to firm. Prices had been gradually coming down for over a year and were expected to slip still further in anticipation of a very large new crop. But now that the supply picture is complicated by the drought, it is uncertain which way prices will go.

Even if the 1962 crop is ample, it could be damaged by a severe lack of rain. Also, our news sources point out, the season of cyclones is approaching. There were no cyclones in the geranium-growing regions last year and market spokesmen in New York say it would be too much to expect another cyclone-free season.

The oil is produced by steam distillation of the flowers and the green parts of plants from several species of the genus Pelargonium. The parent plant, which was indigenous only to South Africa, was planted in many parts of the world during the nineteenth century. Today the chief producers are the Reunion Island and Algeria.

Grapefruit—It is interesting to note that yearly production of grapefruits has remained almost the same for the past 13 years. Figures included in the 1962 Agricultural Outlook Chartbook, published by the USDA, indicate that production in 1948 was 1,793,000 tons and production in 1960 was estimated to be 1,700,000 tons.

The actual range during those years is from a low of 1,417,000 tons in 1949 to a high of 1,898,000 tons in 1953.

During the past 10 years, the price of grapefruit oil has remained relatively stable except for a few months in 1960. The highest it went was $4.50 per pound in 1960 when demand was strong, supplies limited and hurricanes threatening. It has eased off quite a bit since then—now ranging between $2.40 and $2.60 per pound.

Dealers report that grapefruit oil is much more popular now than it was a few years ago. It is now a favorite flavor in frozen punches because it blends well with many other fruit flavors.

Lemon—Spot supplies remain tight, but dealers report that new crop material—soon to be on the market—will bring relief. Already some suppliers have started cutting prices in anticipation of new crop oil.

The Crop Reporting Board of the USDA estimates that the 1962 crop of lemons will be 20 percent larger than the 1961 crop and some 12 percent larger than the average crop.

One essential oil dealer here in New York unofficially estimated that from 1½ to 2 million pounds of lemon oil will be produced in 1962. It has been estimated that average annual production of oil has been approximately 1,250,000 pounds in recent years.

Also helping to relieve the tight situation are the new plantings of lemon trees in Florida. Trees were planted a few years ago and are just beginning to bear fruit, it is reported.

Lemongrass—The spot market continues firm.

Palmarosa—Motia grass, from which the highest quality of palmarosa oil is made, is now being cut in India,, according to reports from abroad. The harvesting season generally lasts from October to December.

Last year's import figures show that more than 12,000 pounds of the oil came into the US from India with something over a thousand pounds coming from France.

The oil is steam or water distilled from

Essential Oils. Aromatics

grass known as Cymbopogan martini Stapt and popularly called Rusha or Rosha grass.

There are two types of grass: Motia and Sofia. Motia gives a superior palmarosa oil, but both varieties grow in India abundantly and sometimes are found side by side.

Experienced distillers can tell them apart. The Motia has a rose-like odor. Motia grass is commercially distilled for oil in the Vidarbha and Khandesh regions of the Maharashtra State and in Madhya Pradesh.

In the Hyderahad region of Andhra Pradesh the oil is also distilled; but there, generally a mixture of the grasses is used with the less desirable Sofia predominating. Hence, it is mostly ginger grass oil and not palmarosa oil. Yield of the oil is generally 0.15 percent from grass.

Annual export of palmarosa oil is some 60 tons, according to figures from India. This oil usually contains 90 percent geraniol. It brought a much higher price, of course, before the production of synthetic geraniol became so wide-spread.

Chief users of India's palmarosa oil are the Sudan in the Middle East, Western Europe, Japan and the US.

Sandalwood — The market continues easier even though supplies remain short and prices high.

Prices continue to range between $27 and $30 per pound. Some dealers expect them to drop once the December auctions take place.

Because the sandalwood industry is a monopoly of the Indian government, there is no guarantee that large quantities of material will go on the block, even if large quantities of material are available.

In auctions past, small lots of the wood and the oil have been released for sale by the government and the price has not always come down following an auction. In some cases, it has actually gone up.

Sales of the various synthetic replacements for sandalwood oil are still reported to be doing well.

Seeds and Spices

Anise Seed—Mexican material has advanced from 33 cents per pound to 35 cents. Turkish material went up from 32 cents per pound to 33c.

Cardamon—Guatemala green material has dropped from $1.85 per pound to $1.80 per pound.

Cloves—Zanzibar material advanced from 37½ cents per pound to 38½ cents.

Marjoram—French material continues firm at 85 cents per round.

Nutmeg—Prices are generally weaker. West Indian material dropped from 88 cents per pound to 85 cents and East Indian dropped from $1.08 per pound to $1.

Pepper—No changes were noted. Malabar black and Lampong black continue at 38½ cents per pound; Brazilian black continues at 37 cents per pound; Brazilian white continues at 49 cents per pound, and Muntok white continues at 51 cents per pound.

Rosemary—Spanish material advanced from 9 cents per pound to 10 cents per pound.

Thyme—French triple sifted extra material advanced from 26 cents per pound to 27 cents per pound.

Vanilla Beans—Bourbon material continues at its previous level, $6.40—$6.65 while Mexican material continues to rise.

Due to an extremely small crop, material from south of the border has advanced once again. Cut material has gone up from $7.85-$8.15 per pound to $7.85-$8.25 per pound and while material has gone up from $8.25-$8.50. per pound to $8.75-$9.25 per pound.

Dealers report that due to the wide variance in the prices between Bourbon and Mexican material, very few sales of the Mexican are being made.

Coal Chemicals

—*Continued from page 51*

mercaptobenzothiozole, mercaptobenzothiazyl disulfide, diphenylguanidine and diorthotoloyguanidine continues well sustained.

Rubber business, both for new and replacement tires as well as other end uses, is maintaining a stable market for all rubber chemicals. Prices continue steady with no change expected in the immediate future.

Coal Chemical Briefs

NEW DYE OFFERED: Carbic-Hoechst Corporation, Mountainside, N. J., has announced the addition to its line of three new "Remazol" dyestuffs developed by Farbwerke Hoechst AG. "Remazol" Yellow GR provides yellow shades of high intensity on all cellulose fibers and polyamide articles; "Remazol" Yellow GGL yields pure greenish-yellow shades, while "Remazol" Brilliant Red BB is a new reactive dyestuff providing bluish-red shades.

Barber Chemical

—*Continued from page 7*

a complete line of industrial products as well as for the canning and storing of packaged goods.

Amsco will continue its St. Paul river terminal, where storage is maintained for up to 4 million gallons of aliphatic and aromatic solvents. The office staff of the two organizations will be combined and situated at the 825-Thornton Street, S. E., address.

The sales staff of Barber Chemical and Amsco's Twin Cities area group will merge under the direction of Walter F. Holen. Mr. Holen has been associated with Barber for over thirty-five years and as vice-president and general manager has directed the chemical operation.

Stokes, IFF's PR Chief, Is Retiring December 31

Sydney N. Stokes is retiring at year's end as director of public relations and advertising for International Flavors & Fragrances, Inc., but will continue to serve IFF as a consultant.

After serving with Merck & Co. since 1934, Mr. Stokes joined IFF in 1955. As consultant, he will be working with IFF, as well as with other chemical and drug companies, in the areas of public relations and advertising.

Polypropylene Fracas

—*Continued from page 3*

meaning, and the tensile strength is no higher than for isotactic polypropylene.

Work at the Polytechnic Institute in Milan has included repetition of the process and procedures cited in the Eastman patent, he adds.

The Italians claim to observe in the product a crystallinity ascribed exclusively to isotactic polypropylene.

The product prepared at Milan by the Eastman procedure gives an X-ray spectrum identical with isotactic crystalline polypropylene, Prof. Natta reports.

As of press time Friday, no Eastman official was available for comment.

However, at the dedication for the company's 20-million-pound-a-year plant in February at Longview, Tex., Dr. L. K. Eilers, president of Tennessee Eastman Company, stressed that one of its two polypropylene processes—the one in use at Kingsport, Tenn.—would not run into any international patent problems (OPD, 2/20/61).

He did, however, express doubt concerning international acceptance of the patent now covering production of polypropylene at Longview. As far as the US goes, Dr. Eilers maintained that Eastman's patents are "free and clear."

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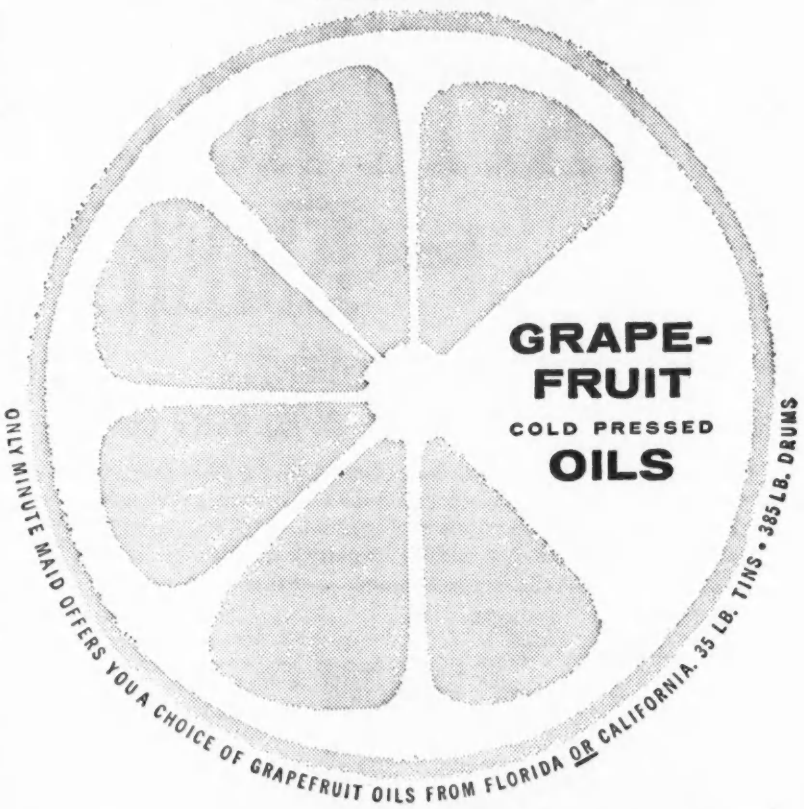
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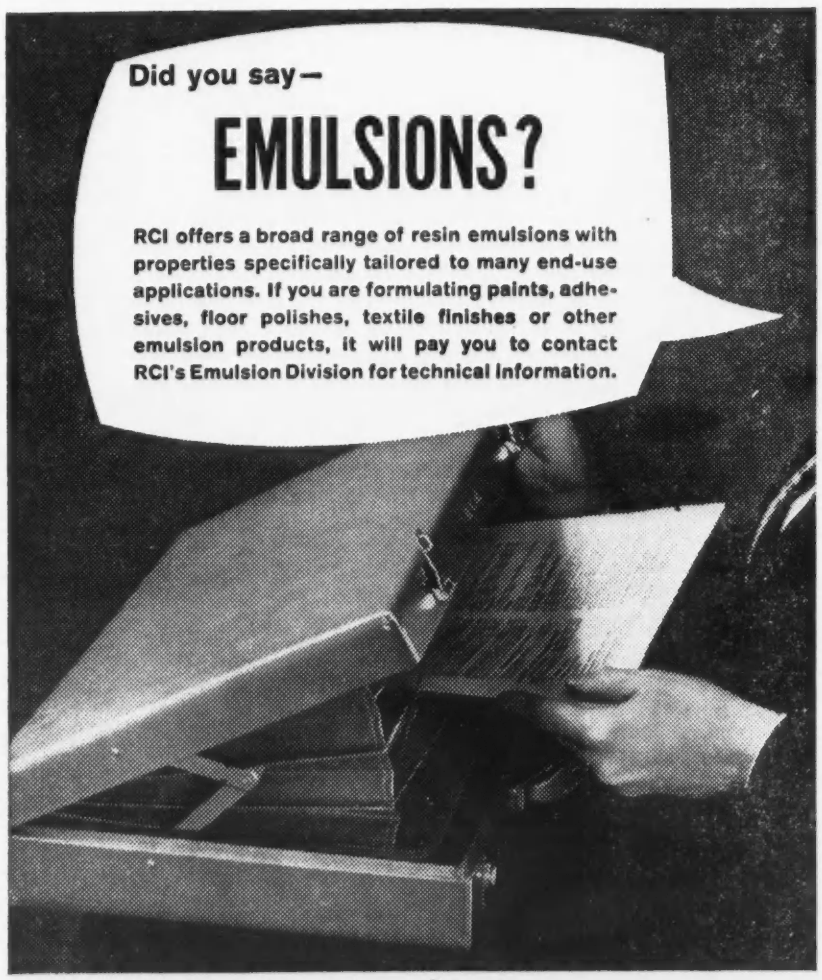
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Coating Materials

Basic sulfate lead pigments are down 1½ cents per pound. On the upswing are lead oxides and lead monosilicate which have risen one-quarter cent. These two seemingly contradictory tendencies can be explained as follows. The 1½-cent reduction of blue lead basic sulfate and white lead basic sulfate is a delayed reflection of two price drops suffered by lead metal during November. On the other hand, the one-quarter cent advance in price of the oxides and monosilicate is an immediate reflection of the most recent development on the market —a one-quarter cent price advance of the metal.

Red lead, litharge, lead monosilicate, and mineral orange underwent two price declines in November. Both amounted to one-half cent per pound. Dry white leads and lead silicochromate followed suit with a price drop of their own, the first since 1959. Now it is announced that the price of basic sulfates will also be adjusted.

But this announcement comes two days before it is learned that the lead metal price will be boosted one-quarter cent, thus reversing November's trend downward, and sending lead oxide prices up accordingly. Whether December will see an analagous chain-reaction of lead pigment prices (this time in an upward direction), is considered by most producers as unlikely. Prices of basic carbonate, basic silicate, basic sulfate, and silicochromate are usually stable, in spite of metal price fluctuations. Producers will try to keep them so, it is reported.

The entire picture is further complicated by a one-half cent per pound increase in the price of zinc metal. Leaded zinc oxides, which contain almost as much lead as they do zinc, were not affected by the November price changes in lead metal.

Producers contemplating a price adjustment downward (in view of the trend in lead) are suddenly confronted with a one-half cent increase in the price of zinc.

No new zinc oxide prices were posted as of press time Friday, although they may be in the offing.

Price Trends

Advanced

Lead, monosilicate, ¼c. per lb.
Lead, red, ¼c. per lb.
Litharge, ¼c. per lb.
Mineral orange, ¼c. per lb.

Reduced

Lead, blue, basic sulfate, 1½c. per lb.
Lead, white, basic sulfate, 1½c. per lb.

Comparative Price Indexes

(100—1949 average)

Last week	Prev. week	Last month	Dec. 2, 1960
103.44	103.44	103.13	103.15

For Current Prices See Page 9

Prime Pigments

Aluminum Paste and Powder—Supplies of aluminum pigments are quite ample to take care of all calls. The new price pattern established some weeks ago as a result of metal price reductions is holding firm, and buyers are expecting no further change for the balance of the year. Business volume is well-sustained, but not spectacular.

Carbon Black—Charts compiled by a leading producer show that total third quarter production of all grades of carbon black was 4 percent below that of the third quarter of 1960. The producer puts total US production of both channel and furnace at 449,473,000 pounds for the July-September period.

According to the same source, production for the first nine months of this year —set at 1,350,819,000 pounds—was 7.8 percent below that of the comparable period a year ago.

Chrome Colors—Production for September fell off somewhat in all categories from August production, says the Census Bureau. The most notable decline was chrome oxide green—the 348 short tons turned out in September were 42 percent below the August figures.

Chrome yellow and orange dipped a mere 2 percent from August, with September output set at 2,068 short tons by the bureau. Molybdate chrome orange production dropped 5 percent from the month previous, with 636 short tons turned out in September.

Lead Pigments—Down in price are blue lead basic sulfate and white lead basic sulfate. Both pigments dropped 1½c. effective November 27. New prices for the two basic sulfates remain identical at 15½c. for carlot quantities, and 16½c. for less-than-carlot quantities.

The price drops are the latest in the chain reaction of lead pigment price declines which reverberated through the month of November. This latest consequence of fluctuations in the price of lead metal comes about as a major producer of the two sulfates announces his new prices on dry white leads, thus meeting the earlier prices posted by another producer on November 20 (as reported in this column last week).

The second announcement indicates blue lead, and white lead, basic sulfate are down in price along with the other dry white leads and lead silicochromate.

All of this is the far-reaching consequence of two ½c. price reductions in lead metal. November saw the metal price plummet to 10c. a pound, the lowest it has been for quite some time. It's no secret, say some producers, that a sizable quantity of Iron Curtain lead has been finding it's way onto the market. Lead price in London is currently 9½c. a pound, and a ½c. spread between London and New York prices is considered usual. This explains, in part, the recent domestic price reductions.

On top of all this it is learned that lead metal prices have just inched their way up ¼c., a sudden reversal of the downward trend.

Immediately following suit are red lead, litharge, lead monosilicate, and mineral orange, all of which are up ¼c. effective the middle of last week. Dry white leads and lead silicochromate have not been affected thus far by this newest development in the price of lead metal.

Whether they will also reverse their recent downward price tendency is left in question by most producers. Normally dry white leads, blue lead, and silicochromate hold aloof from any fluctuations in the price of the metal. Their recent price declines were the first they have undergone since the summer of 1959.

Titanium Dioxide—Pure TiO_2 production for September totaled 45,777 short tons as against 42,165 tons for August, and 36,665 tons for September 1960, reports the Bureau of Census. Stocks of titanium dioxide at producing plants also rose from the 69,723 short tons in stock at the end of August to 73,545 short tons on September 30.

Lacquer Materials

Plasticizers—Producers are still digesting the recent wave of price cuts in the field of plasticizers. Following a ¾c. to 1½c. drop in price of phthalate ester plasticizers in late October, the month of November saw subsequent price reductions made in azelate and related low-temperature plasticizers, as well as in citrate plasticizers.

Both of these latter two price declines came about as a result of reductions made in the prices of the basic raw material—azelaic acid and citric acid, respectively. No further price adjustments are foreseen.

Natural Resins

Shellac—While the General Services Administration does have slightly over 2,000,000 pounds of shellac to dispose of, the GSA plans its disposal in such a way as not to demoralize the domestic market for the material. According to GSA, the annual disposition will not amount to more than 7 percent of the domestic consumption.

Meanwhile, trading in shellac remains relatively quiet. Prices are well held, and no change is looked for in the immediate future, particularly since floor prices established in India are such as not to disturb present trading levels.

Miscellaneous Materials

Casein—Prices are holding steady for the most part. The price range of Argentine in New York has narrowed from last week's 18¾c. to 19½c. to the current range of 19c. to 19¼c.

Production in Argentina is reported as slow in getting under way. Seasonal fac-

tors have prevented output from reaching what is considered normal capacity for this time of the year.

Demand is said to be sluggish at the moment, with prices barely holding their own in a definitely soft market. Little advanced buying interest is noted.

Light offerings of Australian are available for December shipment, February arrival, mostly at 20½c. New Zealand is being channeled to regular outlets at 24c. to 25c.

Glue—Glue production for September, as reported by the Bureau of Census, shows a considerable decline from production figures for the previous month, as well as from September 1960. The major difference was in bone glue, which fell off 10 percent from August production, and 15 percent from that of September a year ago.

Stocks of all glues remained approximately the same.

The table reads (figures in thousands of pounds):

Production

	Sept. 1961	*August 1961*	*Sept. 1960*
Glue, total	6,925	7,806	7,448
Hide glue, total ..	3,241	3,725	3,160
Low grade	1,397	1,759	1,600
Medium grade .	919	820	737
High grade	613	782	599
Extra high grade	312	364	224
Bone glue, total..	3,684	4,081	4,288
Green	*	*	3,506
Extracted	*	*	782

* Breakdown in bone glue figures not available.

Naval Stores

Production—October gum naval stores production is reported at 14,100 barrels of turpentine and 44,640 drums of rosin, according to the Crop Reporting Board. Production during the first seven months of the crop season is 24 percent higher than for the same months last year.

Wood rosin output for the season to date is 5 percent less than for the comparable period a year ago. October wood rosin production was about the same as for September, a decrease in tall oil rosin being practically offset by an increase in steam distilled rosin.

Wood turpentine production totaled 42,030 barrels, up 12 percent from the preceding month. On October 31 gum rosin held by the Commodity Credit Corporation was reported at 59,860 drums, an increase of 23,270 drums from the month earlier. Non-loan stocks decreased 14,540 drums from September 30.

Wood rosin holdings were down 3,460 drums. Stocks of both gum and wood turpentine were slightly higher than at the end of September.

Sales—Rosin overall sales in the week ending November 24 were 1,902 drum equivalents, compared with 2,769 the week previous, and 3,226 the week ending November 10.

Sales, f.o.b. plants, prompt, drums WW $11.70 to $11.85, M and below $11.70 to $11.80. Bags WW $11.60 to $11.85, WG $11.55, Nancy $11.45, M and below $11.30 to $11.80.

Sales, export, f.a.s. ports, prompt, drums WW $12.00 to $12.25, mostly $12.00 to $12.09, WG $12.07.

Turpentine sales in the week ending November 24 were 44,600 gallons as compared with 52,000 gallons the week previous. Tankcars, f.o.b. plants, prompt, 20 6/10c. to 20 8/10c.

The average commercial crude gum price in the week ending November 18 was $30.70 per standard barrel, the same as the $30.70 (revised) for the previous

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Coating Materials

week, and compared with $41.80 a year ago.

The loan price in the same week was $26.00, while the volume of gum delivered during the week was 20,598 barrels (including 14,838 loan). Previous week, 18,675 barrels (including 13,564 loan). Year ago, 17,500 barrels.

Average barrel content: turpentine 8.15 gallons, rosin 296.9 pounds. Gum grading: 1 WW, 6 WG, 19 N, 62 M, 12 K and below. This marks a steady decline in the percentage of gum grading WW. The previous week it was 2 percent, and the week before that, 5 percent. A year ago in the same week it was 5 percent.

Coating Materials Briefs

STAUFFER HAS NEW PIPE: Stauffer Chemical Company reports an unusually acid-resistant "PVC" pipe is now being produced by its molded products division. Immersed in 85 percent sulfuric acid at 140°F. for thirty days, the new pipe showed a weight loss of only 0.2 percent, whereas conventional "PVC" pipe registered a weight gain of more than 13 percent, according to Stauffer.

CHICAGO MOLDED ACQUIRES SITE: Chicago Molded Products Corporation has acquired property in Michigan City, Ind., amounting to forty acres of land along the Nickel Plate Railroad right-of-way. The new site will house the Campco Plastics Company division of Chicago Molded.

P. A.'s Look at Business

—Continued from page 5

say they are paying higher prices, but this is down from 19 percent so reporting in October; 10 percent tell of lower tags.

Buyers show great concern over prices, as management continues to bemoan the lack of profits and looks to purchasing to lead the way in cost reduction.

A special question this month attempted to ascertain what effect federal probing into pricing practices has had on current levels: 57 percent say it has had little or no effect; 38 percent some effect; and only 5 percent say great effect. It is obvious that keen competition in the market place is still in control.

Purchased Materials Inventories

While the "small degree of accumulation" noted in the last two months' reports is still noticeable, this month's figures again point up the "amazing resistance" to high stock levels on the part of purchasing executives. The "close-to-the-belt" buying practice is best seen when one reviews the past months' figures shown below:

Purchased Materials Inventories	*Higher*	*Same*	*Lower*
November	24%	53%	23%
October	27%	49%	24%
September	23%	59%	18%
August	22%	56%	22%

Remarks indicate that the men in charge of these all-important inventories intend to keep a tight inventory-usage ratio, at least until the end of the year.

Employment

Employment continues to show improvement, but the "slightly slower rate" noted last month continues in this month's figures: 26 percent report higher employment levels, down from 29 percent last month, and the lowest number so reporting since March; 15 percent report lower figures, the same as last month, and this is the largest number so reporting since April. These figures seem to bear out the spotty weaknesses noted elsewhere in this report.

Buying Policy

Purchasing executives continue to rely on vendors' excess capacity, high finished inventories and keen competition as they again show unwillingness to change their policy on forward commitments. Even though members hint of signs of lengthening lead times and anticipated labor difficulties, particularly in steel, they have not as yet translated this into action, as we note only a 1 percent change in production materials in the last three reports.

In MRO supplies, we note only a 3 percent change, and this is toward the shorter side. Only in capital expenditures do we note some lengthening in forward commitments, and here again there is only a small percentage of change.

In one of our special questions this month, it is interesting to note that 70 percent of our members say that the cost of money has had little or no effect on their inventory or capital plans for the coming year.

	Percent Reporting				
November	*Hand to Mouth*	*30 Days*	*60 Days*	*90 Days*	*6 Mos. to 1 Yr.*
Production Materials	7	34	36	16	7
MRO Supplies	29	42	23	5	1
Capital Expenditures	14	3	15	29	39
October					
Production Materials	7	34	37	16	6
MRO Supplies	27	45	20	7	1
Capital Expenditures	17	3	13	28	39

Specific Commodity Changes

Continued firmness in the paper market was featured in reports of specific items commanding higher prices; fuel oil was also prominent in this group, as might be expected as the winter season approaches.

Lower tags on steel scrap and lead received wide mention; and, interestingly enough, phthalic anhydride—which had been in short supply throughout most of 1960 and early 1961—has recently undergone a price drop.

On the up side are: sugar, gasoline, fuel oil, bearings, carton, kraft paper, and machine tools.

On the down side are: lead, steel scrap, semi-conductors, cornstarch, phthalic and maleic anhydrides.

In short supply: none.

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Petroleum Derivatives

No price increases are slated for the first quarter of 1962. Such is the gist of reports from all producers available for comment. The thirty-day notification deadline for petroleum producers to announce price changes for the ensuing quarter passed uneventfully last week. No reports were available of price increases in the offing. Two years ago this date petroleum producers announced a 3-cents-per-gallon increase in the price of benzene, shooting the price up to 34 cents a gallon. At the time, benzene was laboring under an exceedingly tight supply situation. Exactly one year ago, with benzene capacity running 130 million gallons ahead of the year previous and demand still outstripping production, producers held on tight to the 34-cent price.

The drop came in mid-July of this year, sending the benzene price back down to 31 cents per gallon, the current listing. As of this November, new benzene capacity is once again in the neighborhood of 140 million gallons in excess of last year's 710-million-gallon estimated capacity.

What's more, the 140-million-gallon figure does not even include another 200 million gallons slated to come on stream during the course of 1962. If all this benzene actually does go on stream, and there is no reason to believe it won't, the end of 1962 should see benzene capacity topping the one-billion-gallon mark. (The estimate includes both coaltar- and petroleum-derived material.) It's no mystery, then, why producers are holding off on a price increase.

Toluene situation is still reported as "spotty." One producer has established his list price at 25 cents per gallon, delivered. This means sales from terminals at New York, Chicago, and Charleston, S. C., are all one-half cent below the former schedule.

Aliphatics

Heptane—Heptane sales are reported "even," moving in their usual seasonal pattern. This solvent, which normally contains a minimal amount of methyl cyclohexane plus smaller amounts of isoheptane and isooctane, is used primarily in the extraction field.

It is particularly suited for the extraction of tallow from meat scraps, states one producer of the material, as well as finding a wide usage in adhesives. In addition, it is used as part of a binary mixture for the dehydration of alcohol.

Lacquer Diluents—December and the colder months should bring an end to the heavy painting schedules prolonged throughout the fall. Solvent sales to the paint industry are expected to fall off some, adhering to normal seasonal cycles. Indoor painting will, of course, account for a certain percentage of sales.

Contrary to their name, lacquer diluents find many uses other than in the paint industry. One grade, having a boiling range of 145°F.-175°F., is suited to the manufacture of adhesives as well as being used in textile printing. This grade, whose evaporation rate is somewhat similar to benzene without possessing the toxicity of benzene, also simulates the evaporation rate and boiling range of hexane. At the same time it reportedly has a higher solvency than hexane.

Prices of diluents whose boiling range lies between 140°F. and 200°F. remain established at 20c. per gallon in the New York-New Jersey area.

Stoddard Solvent—What with the cold weather here, and winter clothes coming out of the closet and into the dry cleaner's, sales of this aliphatic naphtha to the dry cleaning industry should enjoy a big boost.

Price Trends

Advanced
None

Reduced
None

Comparative Price Indexes
(100—1949 average)

Last week	Prev. week	Last month	Dec. 2, 1960
104.13	104.13	104.13	103.74

For Current Prices See Page 9

Stoddard solvent provides the controlled distillation range and evaporation rate necessary to the cleaning industry, in addition to exhibiting a sweet, low odor and a low sulfur content.

The following tankcar prices have been in effect for some time: New Jersey and New York, 18c. per gallon; Houston, Tex., 14¾c. per gallon; Group 3, 12⅞c. per gallon.

LPG's and LRG's

Isobutane—LPG isobutane production shows a steady increment. From October 16 to October 31, 34,385,000 gallons of the gas were turned out. This is as against 31,784,000 gallons produced during the October 1-16 period, and 27,351,000 gallons during the latter half of October a year ago.

Stocks of isobutane show a remarkable augmentation over those of a year ago. On October 31, 1960, only 25,238,000 gallons were in evidence at plants, terminals and underground, whereas October 31 of this year saw a grand total of 84,491,000 gallons of isobutane in stock.

Propane — LPG propane production climbed to 203,265,000 gallons during the October 16-31 period, as compared with the revised figures of 178,695,000 gallons during the first half of the month. Refinery output of propane was 85,009,000 gallons as against 77,412,000 gallons for the first two weeks of October. Stocks remained at approximately the same level.

Miscellaneous

Crude Oil Forecast—The amount of domestic crude oil that will be consumed or exported in December is estimated at 7,185,000 barrels daily by the Bureau of Mines. The forecast for November was 7,050,000 barrels.

The estimate includes a predicted total gasoline demand of 4,100,000 barrels daily in December, a gasoline yield of 44.5 percent, and total crude runs of 8,185,000 barrels daily. The total gasoline demand forecast for December is a 1.1 percent increase over the December 1960 demand of 4,054,000 barrels daily.

Data for September indicate total crude runs to stills were 7,965,000 barrels daily, including foreign runs of 1,126,000 barrels per day.

Indicated crude runs for October were 8,197,000 barrels daily, including foreign runs of 1,048,000 barrels per day. The indicated demand for domestic crude in October was 7,170,000 barrals daily, with production of 7,132,000 barrels a day.

While the weather for October, based on degree days, was 17 percent warmer than normal, the domestic demand for distillate for the month was 6 percent higher than a year ago. Stocks of distillate, which reach the peak level at this time, totaled 178.2 million barrels. This is 1.9 million barrels below the 1960 level.

Runs to stills during the next few months should be governed by the demand and stock level of distillate fuel oil, says the bureau.

Refinery Crude Runs—In the four weeks ended November 24 the American Petroleum Institute puts the daily average of refinery crude runs at 8,097,000 barrels. This figure includes 993,000 barrels of imported crude. Daily average of crude runs to stills in the four weeks ended November 25, 1960 was 7,907,000 barrels.

Stocks of distillate fuel oil on November 24 amounted to 177,543,000 barrels, as compared with 178,483,000 barrels the week before. November 25, 1960 saw 175,741,000 barrels of distillate in stock.

Crude Oil Stocks Climb

Domestic and foreign crude petroleum stocks at the close of the week ended November 18 were 2,894,000 bbls. higher than at the end of the preceding week.

Week ended November 18—250,908,000 bbls.

Preceding week—248,014,000 bbls.

This comprises an increase of 2,894,000 bbls. in stocks of domestic crude and a decrease of 931,000 bbls. of foreign crude.

(Source: Bureau of Mines)

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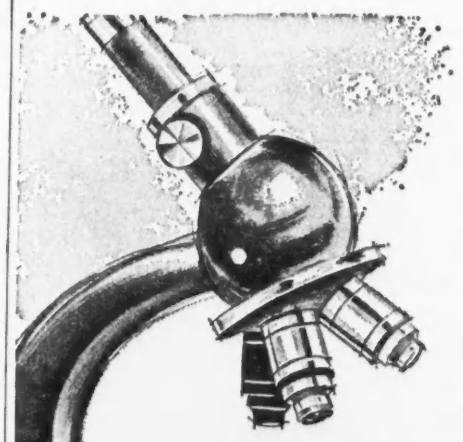

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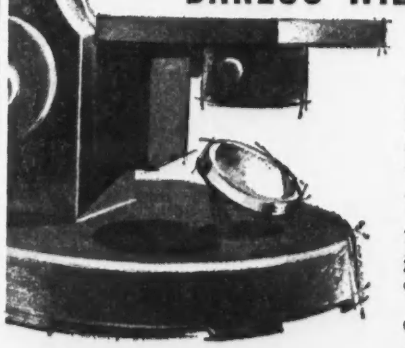

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Agricultural Chemicals

Barely a month and a half after DDT price plunged to an all-time low, a major producer late last week announced a four cent increase which returns DDT price to its former level of 21 cents a pound. Effective on spot immediately and on contract January 1, 1962, the increase comes hard on the heels of the government's announced intention of buying up 47 million pounds of DDT for overseas anti-malaria campaigns. Total export volume for the coming season is expected to run between 60 and 70 million pounds.

Trade sources believed the 17 cent price would not long endure, it's true, but its demise this early comes as a surprise.

New schedule will read: bags, carlots, flake or lump, delivered, 21 cents a pound; bags, less-than-carlots, delivered, 23 cents a pound; fiber drums, carlots, delivered, 22 cents a pound, and fiber drums, less-than-carlots, delivered, 25 cents a pound. Powdered DDT price is one cent higher than flake or lump.

Good news came out of Washington last week as a government scientist predicted eradication within fifteen years of brucellosis, a disease that costs the livestock industry $25 million annually in animal losses. Brucellosis is a coccobacilli which spreads readily from animal to animal, infecting cattle, goats and hogs, and thence is transmitted to humans. Also known under the everyday name of undulant fever, brucellosis causes contagious abortion in cattle and weakness, loss of weight and anemia in humans.

As reported by Dr. C. K. Mingle of U.S. Department of Agriculture's Agricultural Research Service, effective measures against brucellosis have already cut livestock losses from a value of $100 million in 1954 down to the present $25 million.

By 1965, Dr. Mingle estimates the entire country may qualify as a modified-certified brucellosis area. By 1972 bovine brucellosis should be eliminated. And, allowing three years to clear up infection in livestock other than cattle, complete eradication should be a reality by 1975.

Once eradication is accomplished savings in preventive measures would accrue to livestock men as calfhood vaccination and routine bloodtesting would no longer be required. Only routine surveillance would be necessary involving milk ring testing and market cattle testing.

Price Trends

Advanced

Fishmeal, scrap, $2.50 a ton.

Reduced

None

Comparative Price Indexes

(100—1949 average)

Last week	Prev. week	Last month	Dec. 2, 1960
112.41*	111.60	111.60	111.27

* Revised.

For Current Prices See Page 9

Animal and Plant Foods

Ammonium Nitrate—Step-up in seasonal demand will put ammonium nitrate prices forward $3 on January 1, 1962 to $64 a ton for bulk and $70 for bagged material, domestic and Canadian, 33.5 percent N.

Fishmeal—A firm market raised fishmeal prices a further $2.50 a ton last week to a new range of $122.50 to $125. Previous week's trading had been at $120 a ton. Current prices are the highest since 1959.

Processing of fishmeal is slightly ahead of last year's pace according to a report from US Department of the Interior.

Through the first nine months of 1961 the quantity of fishmeal processed amounted to 248,600 tons, greater by 15,500 tons than the amount processed in the same period last year.

Imports have shown a spectacular growth this year with arrivals through August totaling 145,000 tons, some sixty-five percent greater than last year in the same eight months.

Fishmeal production in September was down twenty-six percent from the same month last year. This September's fishmeal output was 29,000 tons, eighty-seven percent of it from menhaden.

Manganese Sulfate — Sixty-five percent $MnSO_4$ material is reported selling for $95 a ton in carlot shipments with less-than-carlot amounts scheduled at $102 a ton. Price became effective July 1.

Seventy-five percent $MnSO_4$ manganese sulfate continues at $85 a ton in 30-ton lots and $82 a ton in 50-ton lots.

The lower-analysis manganese sulfate carries the higher price because it is worked directly from ore while the seventy-five percent material is by-product $MnSO_4$.

Demand for the low-analysis manganese sulfate right now is reported as good due to the tight supply situation in effect for high-analysis material.

Purified Ammonium Sulphate—Price went up 1c. a pound across the board on spot December 1, making the new schedule read: carlot shipments, 9½c. a pound; truckloads, 10c.; 2,000-pound lots and up 11½c., and 100-pound bags, 15c. a pound, f.o.b. Phillipsburg, N.J., freight equalized with New York and Marus Hook, Pa.

New price schedule will take effect for contract on January 1, 1962.

Phosphorous—Tennessee Valley Authority is underway in the construction of an electric furnace which is slated to turn out 16,000 to 17,000 tons of elemental phosphorous annually.

To replace smaller existing units, the new 25,000-kilowatt rotating furnace now building at Muscle Shoals, Ala., will be on stream early in 1963.

Wide acceptance of high-analysis fertilizers and extended use of liquid and new solid fertilizers triggered TVA's move to build the new unit which will have twice the capacity of existing furnaces now operated by TVA.

Superphosphate — US production of superphosphate and other phosphatic fertilizer materials during September amounted to 213,512 short tons on a 100 percent P_2O_5 basis, compared with 153,651 short tons in the same month last year.

Shipments of superphosphate fertilizer materials during the month totaled 177,507 short tons, or twenty-one percent above the volume shipped during September, 1960 according to the Bureau of the Census.

Stocks held by producing plants as of September 30, 1961 totaled 424,615 short tons, or three percent less than those held at the end of August.

Urea—Producers' schedules call for a $4.75 advance in the price of domestic and Canadian urea, 45 percent N, on January 1, 1962.

New schedules will read: $90 a ton for bulk urea and $96 for bagged material.

Pesticides

Endrin-Methyl Parathion—One producer indicates endrin-methyl parathion will see extended use on cotton next season.

USDA issued approval this year for endrin-methyl parathion, a combination pesticide which attacks boll weevil, bollworm, thrips, cutworms and plant bugs. No residue in cotton seed or seed products is reported.

Grain Fumigants—A major chemical company has announced price increases for liquid grain fumigants.

Type 80-20 went up 18c. a gallon on spot December 1 for bulk purchases making the new listing $1.27 a gallon. Price will go up on contract January 1, 1962.

Carload drum price for type 80-20 liquid grain fumigants went up on spot December 1 from $1.25 to $1.44 a gallon. New schedule will become effective for contract purchases January 1, 1962.

Sabadilla Seed—A wide range of prices are reported for sabadilla seed. One dealer reports 50 percent calcined material in the range of 48c. to 52c. a pound. Another dealer, with little stock, reports a range of 65c. to 70c. a pound.

Sabadilla seed is used as a taenicide to combat tapeworm infestation and to destroy vermin in the hair.

Other medical uses include manufacture of the alkaloid veratridine which slows the heart rate and has a vasodilator effect.

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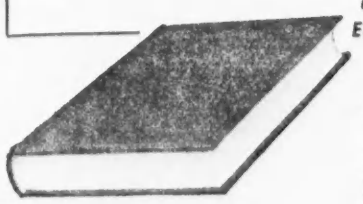
Prepared by a staff of specialists under the direction of John H. Perry, Editor, CHEMICAL ENGINEERS' HANDBOOK



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Oils, Fats and Waxes

Corn oil continued weak and has declined as rapidly as it recently advanced. Sales last week took place at a decline of 2½ cents per pound, scoring a net loss of 4½ cents in the last three weeks. Other edible oils also were easier. Peanut oil dropped ¼ cent and cottonseed and soybean oils were also easier and declined ⅛ cent. Consumer interest was limited with actual sales restricted to prompt needs.

Crude coconut oil was easier and fractionally lower as was copra. Olive oil market in Spain was firmer because of smaller crop this season. New crop was slightly higher for January-March shipment. The local market was unchanged and steady.

Tallow and greases were firmer and ⅛ cent per pound higher. Trading was moderate, but the market advanced because of light offerings and improved buying interest. Export business was reported spotty. Edible tallow was weaker, off ⅝ cent per pound, with lower lard.

Brazilian castor oil was firmer and advanced ¼ cent per pound because of dwindling stocks at the source. Offers for shipment from Brazil was scanty and held at 1 to 1½ cent higher. Trading for European account was reported active of late for shipment from Brazil. Tung oil was unchanged, but steadier owing to the lack of offers of replacements from the Argentine. This materially reduced selling pressure in the local market and the price trend appears set for higher levels. Linseed oil remained unchanged, despite a drop in flaxseed of 7 cents per bushel. Withdrawals of oil continued quite active, while new business lagged.

Soybean meal export demand improved and market rallied closing 50 cents higher. Linseed meal also was firmer advancing $1 per ton. Cottonseed meal was fairly active at 50 cents per ton lower. Peanut meal production is still limited and moving at unchanged prices.

Price Trends

Advanced

Castor oil, Braz., ¼c. per lb.
Cocoa butter, 2½c. per lb.
Greases, ⅛c. per lb.
Linseed meal, $1 per ton.
Soybean meal, 50c. per ton.
Tallow, inedible, ⅛c. per lb.

Reduced

Coconut oil, crude, ¼c. per lb.
Copra, $4 per ton.
Corn oil, crude, 2½c. per lb.
Refd., 2½c. per lb.
Cottonseed meal, 50c. per ton.
Cottonseed oil, crude, ⅛c. per lb.
Refd., ⅛c. per lb.
Peanut oil, crude, ¼c. per lb.
Refd., ¼c. per lb.
Soybean oil, crude, ¼c. per lb.
Refd., ⅛c. per lb.
Tallow, edible, ⅝c. per lb.

Comparative Price Indexes

(100—1949 average)

Last week	Prev. week	Last month	Dec. 2, 1960
115.61	115.61	115.40	105.07

For Current Prices See Page 9

Vegetable Oils

Castor—Higher cost of replacements from Brazil because of smaller stocks for export which were raised 1c. per pound, stiffened the local market and quotations were lifted ¼c. No. 1 Brazilian ranged from 16c. to 16¼c. per pound, tankcars, New York, prompt shipment, depending upon seller. Trading was moderate chiefly for prompt needs. Domestic grades maintained at former levels.

Imports of castor beans and castor oil at New York and Philadelphia last week were as follows:

	Pounds	
	Castor Beans	Castor Oil
Last week	199.700	1.000.000
Previous week	1.762.200	1.616.000
Corresponding week, 1960		2.480.000
Total this year	2.694.950	86.842.000
Corresponding period, 1960	3.503.450	82.716.000

Coconut—Market was weak and lower. Crude was sold at 10½c. per pound, tankcars, f.o.b. Pacific coast for prompt shipment and offered at 12c. tankcars, New York basis.

Corn—Further weakness developed in this market and prices declined 2½c. Crude sold down to 21½c. per pound, f.o.b. mills, prompt shipment. Refined oil dropped to 25.41c., tankcars, New York, prompt delivery.

Cottonseed—Futures market was irregular and lower early last week, but rallied and partially recovered the declines. Trading was fairly active with commission houses on both sides. Hedging operations were less active than a week ago. Cash oil was slightly lower with crude oil. Refined salad was quoted at 15¾c. per pound, tankcars, New York, prompt delivery.

Crude oil sales were fair and took place at ⅛c. lower. Trading was reported at 12⅜c. per pound, tankcars, southeast and 12¼c. in the Valley. Waco was quoted at 12⅛c.

Cottonseed Crush: October

Cottonseed received and crushed and production of cottonseed products during October and September, 1961, as compiled by the Bureau of Census, follows:

Cottonseed

	October	September
	Tons	
	October	September
Receipts at mills	2,103,700	*591,600
Crushed or used	753,000	334,200
Stocks at mills	1,830,000	*479,300

Crude Oil

	Pounds	
Produced	256,000,000	109,400,000
Stocks at mills	54,800,000	24,700,000

Cake and Meal

	Tons	
Produced	341,200	149,600
Stocks at mills	96,700	73,300

Hulls

	Tons	
Produced	169,000	74,600
Stocks at mills	97,100	86,100

Cottonseed Oil Futures

Sales and prices of prime summer yellow cottonseed oil futures in tankcars (60,000 pounds) on the N. Y. Produce Exchange for the week ended Friday, December 1, follow:

	Sales	Cents per Pound High	Low	Close
Dec.	205	14.43	14.03	14.17 S
March	363	14.26	14.00	14.11 S
May	257	14.25	14.00	14.05@14.08
July	129	14.25	13.99	14.02@14.06
Oct.	1	13.50	13.50	13.54@13.55

Total sales and switches, 955 contracts.

Disappearance of refined cottonseed oil in October was indicated at 2,785 tankcars compared with 1,934 in September and 2,322, October last year. August-October total disappearance was 6,590 tankcars against 6,335 for the same period last year. Visible supply was estimated at 13,603 tankcars end of October against 13,850, a year ago.

Linseed—Market was unchanged despite lower flaxseed. Demand was limited to actual needs, while withdrawals against contracts moved in fair volume. Raw oil was held at 15.20c. per pound, tankcars, f.o.b. Minneapolis, December-February delivery; 15.40c., March-May and 16.26c., f.o.b. New York, prompt delivery.

Olive—Replacements were firmer because of reports of smaller oil production than last season. Spanish oil was held at $52.50 to $53 per 100 kilos, f.o.b. ports for January-March shipment. Trading here and abroad was slow. On spot, prices ranged from $2.30 to $2.40 per gallon, drums, exwarehouse, according to quantity.

Peanut—Market was easy and fractionally lower. Crude sold down to 17½c. per pound, tankcars, f.o.b. mills, prompt shipment. Refined oil was reduced to 20¾c., tankcars, New York, prompt delivery.

Production of crude peanut oil in October was placed at 4,301,000 pounds against 1,231,000 in September and totaled 9,769,000 pounds, August through October compared with 12,208,000 pounds for the same period last year, according to the Agriculture Department. Peanut oil cake and meal output was indicated at 7,310,000 pounds in October against 2,466,000 pounds in September. Total production August through October was 16,477,000 compared with 18,999,000 pounds for the like period in 1960.

Peanuts milled during October totaled 198 million pounds. This was the heaviest since October 1949 when 237 million pounds were milled. Total for the 1961 season to date was 339 million pounds

Oils, Fats and Waxes

compared with 319 million pounds for the comparable period last year.

Soybean—Market was irregular and lower. Trading was quite active. Crude was sold at 10.30c. per pound, tankcars, Decatur, unrestricted, prompt shipment. Peru bought 4,000 tons of soybean oil. Refined salad was lower at 12½c., tankcars, New York, prompt delivery.

Crude soybean oil disappearance in October was placed at 5,247 tankcars compared with 5,447 in September and 5,455, October 1960. Visible supply was estimated at 23,870 tankcars end of October compared with 9,426 in September and 21,630 a year ago.

Tung—Steadier undertone prevailed in this market as selling pressure slackened. Offerings were scarcer and quotations ranged from 28½c. to 29c. per pound, tankcars, New York, for prompt delivery, depending upon seller. Scarcity of oil available from the Argentine was the bullish factor. Drums were unchanged at 30½c. to 31c., spot, according to quantity.

Miscellaneous

Cocoa Butter — Market was stronger with futures and advanced 2½c. to 65c. to 70c. per pound, spot, according to quantity. Trading at the advance was quiet.

Copra—Shipments were easier, and prompt declined to $146.50 per ton, c.i.f. Pacific coast following sales at $1 higher.

Flaxseed—Most offerings in this market are applied on old contracts. To-arrive bookings for the week dwindled to six cars and 21,000 bushels in odd lots. After a long stretch at the $3.42 level, spot and to arrive at Minneapolis slipped to $3.35, for a decline of 7c. a bushel.

Fats and Greases

Greases—Steadier tone developed on fair trading and scarcity of offerings. Prices were lifted ⅛c. Choice white was higher and sold at 7½c. per pound, tankcars, delivered. Yellow was moved at 5c., same basis, and raised to ⅛c. more.

Lard—Market was quiet and lower. Cash lard was nominal at 8½c. per pound, drums, Chicago.

Tallow—Scarcity of offerings and some improvement in demand strengthened the market. Quotations were lifted ⅛c. Trading at the advance was reported limited.

Soybean Crush: October

Soybeans received and crushed and production of soybean oil and meal during October-September, 1961, as compiled by Bureau of Census.

Soybeans

	October	September
	Tons	
Receipts at mills	3,274,400	570,100
Crushed or used	1,086,700	688,600
Stocks at mills	2,470,400	282,700

Crude Oil

	Pounds	
Produced	393,900,000	253,300,000
Stocks at mills	105,600,000	94,000,000

Cake and Meal

	[1] Tons	
Produced	846,600	542,600
Stocks at mills	67,400	77,500

[1] Includes millfeed (hull meal.)
* Revised.

Bleachable fancy was held 5⅝c. per pound, tankcars, delivered; prime 5⅜c.; guaranteed fancy, sold 5⅞c. and held at 6c.; special, 5¼c. and No. 1, 5c. to 5⅛c., same basis. Edible tallow was lower at 8⅛c., same basis. Export business was spotty. Guaranteed fancy was quoted at 6¼c. to 6⅜c. per pound, bulk, f.o.b. steamer and 7.35c., drums, f.a.s. for January shipment.

Fish Oils

Cod—This market remained unchanged and firm. Buying interest continued quite active. Offers for shipment maintained at 7⅛c. to 7¼c. per pound, bulk, f.o.b. Gloscester, Mass. Shipping space for prompt shipment continueu scarce.

Menhaden—Light trading was confined to domestic needs, while export interest was slow. Crude was available at 5½c. per pound, tankcars, f.o.b. works, with best bids at ½c. less. Refined grades were quiet, but steady. Light pressed was held at 10.80c., tankcars, New York, prompt delivery.

Sperm—Demand was confined to actual needs. Market was steady and unchanged. Bleached winter was held at 15½c., tankcars, New York and natural winter at 14½c., same basis.

Cake and Meal

Cottonseed Meal—Production continued to move in good volume against contracts. Meal, 41 percent ranged from $63.50 to $64.50 per ton, sacked, Mississippi Valley area and $67.50, in the southeast for December shipment.

Linseed Meal—Market was active and strong. Mixers were busy keeping ahead of feeder demand from the country. Quotations were $1 per ton higher. Supply and demand was in close balance. Extracted meal, 34 percent, bulk, in carlots, f.o.b. Minneapolis, was higher at $59 per ton, December delivery. Old process, 32 percent protein, expeller meal, held at $62 November, $61 December, and $62, January-March.

Peanut Meal—Steady demand absorbed light production at $70 to $72 per ton, sacked for 45 percent meal in the Alabama-Georgia area.

Soybean Meal—Improved export business rallied this market and prices closed 50c. higher. Domestic demand was spotty. Unrestricted delivery advanced to $58 per ton, bulk, Decatur, prompt shipment.

Waxes, Vegetable

Consumer interest in this market continued limited to small quantities for immediate needs. While business was slow, the local market remained unchanged and steady, reflecting the strength of replacements from Brazilian market, which are under government support at recent price advances for wax at ports as well as interior producing points. This has prevented any selling pressure in the primary market. Locally, prices were maintained at former levels. No. 3 Ceara crude ranged from 55c. to 57c. per pound, according to quantity, with Parnahyba, 2c. higher. Yellows continued in tight supply here and abroad. No. 1 yellow Ceara on spot was held at 88c. to 90c. per pound, and No. 1 Parnahyba, 90c. to 92c., depending upon seller and quantity.

Crude beeswax was quiet, but steady owing to firmness of replacements. Refined beeswax was fairly active and firmly held at unchanged quotations, Japan, candelilla and ouricury were unchanged and well held.

Chemists Set Xmas Party

Chemical Club of Philadelphia will hold its annual Christmas party December 11, at Palumbo's, at Eighth and Catherine streets, in Philadelphia. Cost is $8 per member and $10 for guests.

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Aliphatic Organics

—Continued from page 47

lion pounds, up 5.4 million pounds (28.7 percent) from September, but down 1.4 million pounds from October, 1960.

Output of all grades of refined glycerine in October totaled 23 million pounds, up 5 million pounds (27.8 percent) from the previous month.

Statistics were compiled by the Glycerine Producers' Association from reports issued by the Commerce department.

Molasses—Treasury Department has determined that Cuban molasses is not now being, nor likely to be, sold in the US at less than fair value within the meaning of the anti-dumping act.

Treasury officers, however, will continue to appraise molasses shipments from Cuba, reporting their findings to the Customs bureau. If warranted, the Treasury department will reopen the case based on this information.

Imports of industrial and feed molasses during the first nine months of the year totaled 215.7 million gallons, down from 375.9 million in the comparable period of 1960.

Inshipments in September amounted to 19.1 million gallons, 37 percent less than imports in August and 48 percent less than those of September a year ago.

Exports of industrial and feed molasses from the US mainland and its territories were 9.7 million gallons during the first nine months of 1961. This compared with 14.6 million gallons in the same period in 1960.

Sucrose—Deliveries of beet sugar for the first ten months of the year were 41,158,702 bags, up significantly from the 33.9 million bags shipped in the same period of 1960, the US Sugar Beet Association reports.

Prospect of larger imports of refined sugar from Puerto Rico was indicated last week. Rep. Harold D. Cooley of the house agriculture committee said he would look with sympathy and perhaps with favor on an anticipated request from Puerto Rico for a hike in its sugar quota.

Aliphatic Organics Briefs

AUTOMATION: Celanese Corporation of America, New York, is installing a digital computer system to control two of the four primary oxidation units of its chemical plant at Bishop, Tex. The system will be supplied by Thompson Ramo Wooldridge, Inc., Canoga Park, Calif.

DATA OFFERED: A ten-page bulletin describing the properties and uses of sodium isethionate, a difunctional chemical intermediate, is now available from Antara Chemicals, a division of General Aniline & Film Corporation, New York. The chemical is used primarily in the manufacture of anionic surfactants.

PATENTS AWARDED: Jefferson Chemical Company, Houston, Tex., has been granted two Canadian patents based on inventions by company staff members. One was awarded to Dr. Norman B. Godfrey for a method of preparing piperazine type compounds and the other was issued to Dr. Kenneth E. Harwell for a method of preparing epoxy resins.

SALES AFFILIATE: DuPont de Nemours Argentina SACI, a wholly-owned subsidiary of E. I. duPont de Nemours & Co., Wilmington, Del., is now the Argentine sales representative for the firm's textile fibers, except nylon, and petrochemicals. Ducilo SAIC, duPont's Argentine manufacturing affiliate, continues to handle nylon sales.

SALES OFFICE OPENED: Eastman Chemical Products, Inc., a subsidiary of Eastman Kodak Company, has opened a sales office at 425 Braniff Building, Dallas 35, Tex. William L. Rutherford has been named sales representative. He was formerly with the sales development laboratory at company headquarters in Kingsport, Tenn.

Chemicals and Industry

—Continued from page 4

12 percent to 15 percent over 1961. The output of some synthetic materials such as plastics and synthetic rubber may show gains up to 20 percent over 1962. Synthetic fiber production is expected to increase less than 10 percent over 1961," Mr. Reeder said.

The total output of chemical products is expected to rise in 1962 by about the same percentage as in 1961—5 percent or 6 percent. These products are less sensitive to business cycles than industrial chemicals.

The chemical industry as a whole operated close to 90 percent of capacity in all but two years of the past decade. Capacity rose 7.5 percent per year during the 1950's, only slightly more than the 6.8 percent per year growth in production, Mr. Reeder went on.

Within a framework of continued economic growth for the country as a whole throughout the 1960's, chemical production should continue to increase at its historical growth rate of 6 percent to 7 percent per year, the speaker predicted.

Plastics and Aluminum

—Continued from page 7

existing films, new dimensions will be added to the dynamic business of film packaging.

As for the aluminum foil demand, Mr. Murphy told the group that supermarkets and convenience foods are still going strong, and there is nothing to indicate any break in this trend.

He added that there are seven basic areas of packaging that utilize aluminum foil in one form or another. They are: flexible packaging, folding cartons, kegs and cases, cans, foil containers, caps and closures and collapsible tubes. These areas, he said, have a total sales value currently of about $3.9 billion. The projected total for 1966 is $5 billion.

By concentrating its efforts in these areas, Mr. Murphy concluded, aluminum has many fascinating opportunities ahead.

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40" Tolhurst CENTRIFUGE Stainless Perforate.
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Pfaudler 500 gal. ELL GLASS LINED REACTOR, agitated, 75 PSI jacket, 25 PSI internal.
Pfaudler 300 gal. El GLASS LINED REACTOR, agitated, 90 PSI jacket, 25 PSI internal.
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5'3"x3' Oliver Precoat Rotary VACUUM FILTER, Vaportite, 316 Stainless.
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2—Sharples #16, 304 S.S., 3 HP motor.
1—Tolhurst 40" 347 S.S. Imperforate Basket, 15 HP, UNUSED.
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2—Niagara 370 sq. ft. Vert. 304 S.S.
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1—Link Belt 6'4"x24' Rota Louvre, 316 S.S.
1—Atmos. Tray, 13 shelves, 3'x3'.
2—10' and 4' dia. 304 S.S. Spray Dryers.
2—Wyssmont, 304 S.S. 6'2" and 9'6" dia.

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3—800 gal. Struthers-Wells 4'6" dia. x 10' long, T316 SS clad, ASME 400 psi WP, (3) vert. T316 SS Agit.
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1—5 gal. T316 SS, Nooter, direct-fired, Agit.
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2—Niagara #36H-350-2, T316 SS press.-leaf filters, 350 sq. ft., vert. leaves, horiz. jacketed tank.
2—Process Filters #901A4, T304 SS pressure leaf filters, 300 sq. ft., vert. tank & leaves.
2—Feinc 3' dia. T316 SS horiz. rotary vacuum filters.
1—Feinc 3' dia. horiz. vacuum filter, Monel & Rubber-Covered.
4—Eimco 8'x8' rotary vac. filters, rubber-covered.
1—Eimco 4'x8' T316 SS rot. vac. filter, precoat.
1—Merco #A-24, T316 SS contin. centrif., 40 HP.
1—Mercone #C-400 T316 SS contin. centrif., 40 HP.
2—Sharples C-20 Super-D-Hydrators, T316 SS.

PUMPS

4—Aldrich 3⅛"x5" Triplex, T316 SS, 1000 psi, 30 HP.
3—Aldrich 2⅛"x3" Triplex, T316 SS, 450 psi, 10 HP.
3—Aldrich 1½"x2" Triplex, T316 SS, 1000 psi, 7½ HP.
1—Milton-Roy #M-D1-101-84-SM, T316 SS, 78 GHP @ 1000 psi.
2—Allis, 3" rubber-lined centrif., 10 HP.
3—Galigher 2" rubber-lined centrif., 5 HP.
30—Worthington 2"x1½" Worthite centrif., w/motor.
20—Worthington 1½"x1" Worthite centrif., w/motor.
6—Oliver centrif. Olivite: 2", 1¼", w/motors.
2—Ing.-Rand #10AFUS, Iron centrif., 3500 GPM @ 125' 12"x10", 125 HP.
3—Ing.-Rand #2½VHTB Iron Turbine, 1636 GPM @ 3380' head, 250 HP.
2—Worthington #16QHO-1 Iron Turbine, 3500 GPM @ 80' head, 100 HP.
2—Nash H-8 vacuum pumps, 50 HP.

CALCINERS — DRYERS — FURNACES — BOILERS

3—Bartlett & Snow, 14" I.D. x 18'5" long stainless rotary calciners, indirect gas-fired, ⅜" thick calcining tube.
1—Bartlett & Snow 3' dia. x 19'6" long rotary hot-air dryer, ¼".
1—Gas Machinery Co. 5' dia. rotary annealing furnace, 1850° FWT.
1—Gas 2-tube reformer furnace or heater, 26'10" high, 9" refractory lining, John-Zink gas burners.
2—Foster-Wheeler 5190 sq. ft. boilers, 1200 psi, 50,000#/hr., w/economizers, gas-oil fired.

STAINLESS STEEL TANKS

(Type 316 Stainless Steel)

3—11,800 gal. vert., 12' dia. x 14' high, 3/16", S.E. Agit.
4—10,000 gal. vert., 12'x12', 3/16", 15 HP Turbine Agit., sump pumps.
1—10,000 gal. vert., 12'x12', ¼", 15 HP Turbine Agit., JACKETED.
2—5800 gal. vert., 10'x10', 3/16", 15 HP Turbine Agit.
1—4200 gal. vert., 8'6"x9', 3/16", cone bottom.
1—3500 gal. horiz., 6'x16', 300 psi WP, dished heads, T316 SS clad, 45 sq. ft. coil.
6—3000 gal. vert., 8'x8', 3/16", Agit.
1—1700 gal. vert., 6'x8', 3/16", 10 HP Agit.
1—1150 gal. vert., 5'6"x6', 3/16", 5 HP Agit.
1—900 gal. vert., 5'x6', 3/16".
1—620 gal. vert., 3'x10'8", ¼", dished top, cone bottom.
1—560 gal. vert., 3'x9'8", ¼", dished top, cone bottom.
10—30 to 100 gal. T316 SS tanks.

EVAPORATORS— HEAT EXCHANGERS

1—1064 sq. ft. General Amer. T316 SS forced circ. evap.
1—1200 sq. ft. Swenson, T316 ELC SS single-effect vert. long-tube evap.
1—5300 sq. ft. Swenson T316 ELC SS double-effect vert. long-tube evap.
1—6570 sq. ft. Swenson T316 ELC SS 3-body, 2-stage vertical long-tube evap., T316 ELC SS vertical heaters, Neoprene rubber-lined vert. vapor bodies, with pumps, piping, controls, etc.
1—220 sq. ft., T316 SS double-pipe cooler.
2—212 sq. ft. T304 SS tru-fin tubular condensers.
2—192 sq. ft. T304 SS Graham "Monobolt" exchangers.
1—154 sq. ft. Davis exchanger, admiralty tubes.
1—90 sq. ft. Whitlock T316 SS horiz. U-tube exchanger, ASME code 1000 psi WP shell & tubes, remov. tube-bundle.

COMPRESSORS

2—Ingersoll-Rand air compressors, 2610 cfm @ 1000 psi, model #PRE-4, size 10 & 6¼x19, & 27½x16¾x19, (4) stage, 1000 HP motor.
2—Penna. air comp., 305 cfm @ 100 psi, model 3-ATC, size 12x11, 75 HP motor or 88 HP gas-engine drive.
2—Chicago-Pneumatic gas comp., 317 cfm @ 1500 psi, model #TCB-3, size 11¾ — 7¼x3⅛x13, 3-stage, 125 HP.
1—Ing.-Rand air comp., type ES-3, 10½x7⅛x3⅛, 125 HP motor.

MISCELLANEOUS

30—Nettco Agit. drives: #WT-47, WT-37, WT-27.
1—Marcy 64½ contin. ball mill, 100 HP.
2—Munson #7 rotary batch blenders, 60 cu. ft., heavy-duty, 25 HP motor.
1—Komarek-Greaves 1000#/hr. briquett press, SS rolls, 90,000 psi, w/vari-drive.
3—Screw type classifiers, T316 SS, 12" dia. x 96".
35—Agitators, T316 SS, 10-blade turbines, with shafts.
3—Wallace & Tiernan #WB9LM Merchen scale feeders.
3—Wallace & Tiernan #A-552 dry chemical feeders.
1—Flotation machine, 4-cell, 56", w/drives.
3—Toledo 750# dial scales, portable.
21—Nitrogen gas cylinders, 2100 psi.
20—Rubber-lined tanks, to 10,000 gal., T316 SS Agit.
1—Sweco 16" dia. Stainless separator screen.
20,000'—T316 SS Pipe, Sch. 10 & Sch. 40, all sizes.
2000'—Titanium pipe & tubing.
5000'—Hard rubber, plastic pipe.
5000—T316 SS valves, screwed or flanged, to 6".

STOCK ITEMS

KETTLES — REACTORS

1—2000 gal. Glascote blue G/L reactor, jacketed, ASME.
45—1400 gal. Pfaudler blue G/L jacketed kettles, Agit.
4—1350 gal. T347 SS jkt. kettles, Agit.
11—1250 gal. Pfaudler blue G/L jacketed closed reactors, vacuum, w/cond., Agit.
1—1200 gal. Artisan T304 SS clad reactor, vac. int., 100 psi jkt., Agit.
1—1000 gal. Dopp Cast Iron Kettle, jacket, agit.
1—1000 gal. T316 SS jkt. reactor, ASME, UNUSED.
1—750 gal. Graver T304 SS jkt. reactor, Agit.
1—1000 gal. Pfaudler "R" jkt. glassed reactor.
1—750 gal. Pfaudler jkt. glassed kettle, Agit.
35—600 gal. Pfaudler Stainless Steel jacketed kettles.
2—500 gal. T304 SS jkt. reactors, ASME, UNUSED.
3—500 gal. Pfaudler "R" series, glassed reactors, Agit.
1—500 gal. T316 SS jkt. reactor, Agit.
6—465 gal. T304L SS reactors, 150 psi int, 165 psi jkt.
1—300 gal. Pfaudler blue G/L reactor, jkt., Agit., ASME.
1—300 gal. T304 SS jacketed reactor, ASME, UNUSED.
65—250 gal. Pfaudler blue G/L kettles, jkt.
2—200 gal. T304 SS jkt. reactors, ASME, UNUSED.
1—175 gal. T304 SS jkt. reactor, Agit.
1—150 gal. Pfaudler "P" jkt. glassed reactor.
2—100 gal. T304 SS jkt. reactors, ASME, UNUSED.

STAINLESS STEEL TANKS

3—20,000 gal. vert. T316LC SS crystallizing tanks, 14'x15', cone botom, cone top, ⅜".
6—13,300 gal. vert., T321 SS, 11'10"x15'x7".
1—12,000 horiz., T304 SS, 9'6"x20', dished, UNUSED.
2—5700 gal. horiz. T304 SS, 6'4"x24', UNUSED.
2—4500 gal. vert., T304 SS, 8'x12', UNUSED.
18—3650 gal. vert., 10'x7', open top, 3/16".
1—3350 gal. vert., T304 SS, 8'x8'6", dished, 50 psi WP.
1—3300 gal. vert., T304 SS, 6'x14'6", dished.
1—3250 gal. vert., T316LC SS, 6'x15'10".
1—3200 gal. vert., T304 SS, 6'6"x12', dished.
2—3000 gal. vert., T304 SS, 6'x15', dished.
3—3000 gal. horiz., sanitary milk tanks.
1—2800 gal. horiz., T304 SS, 5'x18', dished.
2—2600 gal. vert., T316 SS, 7'x8', dished, coils.
1—2350 gal. vert., T304 SS, 5'x16', 3/16", coils.
1—2250 gal. vert., T316LC SS, 6'x8', flat heads, 3/16".
1—2100 gal. vert., T316 SS, 7'x6'3", dished.
5—2100 gal. vert., T304 SS, 8'x5'6", dished.
1—2100 gal. vert., T316 SS, 6'x9'10".
2—1600 gal. vert., T316 SS, 7'x6', coils, Agit.
1—1650 gal. vert., T304, 5'x11', dished.
2—1500 gal. vert., T316 SS, coils, Agit.
60—1350 gal. horiz., T347 SS, 4'x14' coils, dished, 60 psi.
9—1300 gal. vert., T321 SS, 7'x4'6".
1—1200 gal., vert., T304 SS, 4'x12'6", dished.
2—1100 gal. vert., T347 SS, 4'x11', 60 psi.

FILTERS

4—1250 sq. ft. Shriver cast P. & F. filter presses.
5—1000 sq. ft. Valley Alum. P. & F. filter presses.
1—510 sq. ft. Niagara #510-28, T316 SS.
1—88 sq. ft. Sparkler type RSC, T304 SS vert. leaves, Plastisol lined horiz. tank, 1958.
2—Oliver 5'3"x3', T316 SS rot. vac., precoat.

DRYERS — KILNS

1—Buflovak 2'x7'10" rotary vacuum dryer, T304 SS, ASME jkt., 3 HP XP Agit.
3—F. J. Stokes #138J-16 Vacuum Shelf Dryers, 195 sq. ft., 16 shelves.
2—Buflovak 42"x120" Dbl. drum dryers, ASME 160 psi.
1—Buflovak 32"x52" Dbl. drum dryer.
1—Buflovak 6"x8" Dbl. drum dryer, Vac.
1—Buflovak 5'x12' single drum VACUUM dryer.
1—Vulcan 10'x11'x175' long rotary kiln, 2-tires, 13/16".
1—Allis 7'x120' rotary kiln, ⅝" welded.
1—Link-Belt #900-30 Roto-Louvre dryer.
2—Bartlett & Snow 8'x6"x70' rotary dryers, ⅝" welded.
1—6'x150' rotary kiln, 5/8" welded.
1—Link-Belt #604-18 Roto-Louvre dryer.
1—Louisville 5'x30' steam-tube dryer.
2—Louisville 4'x6"x25' steam-tube dryers.

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EQUIPMENT
for CHEMICAL AND ALLIED INDUSTRIES

1—Pfaudler type 316 SS 100 gal. jacketed reactor.

1—Pfaudler SS 200 gal. jacketed reactor.

70—Alloy Fabricators 400 gal. SS jacketed reactors.

1—Pfaudler SS 750 gal. jacketed reactor.

2—Alloy Fabricators SS jacketed reactors, 4000 and 5000 gal.

1—Sharples SS Super-D-Canter, Model PN-14.

3—Tolhurst 30" rubber covered center slung centrifuges.

2—Fletcher rubber covered centrifuges 40" underdriven.

2—AT&M suspended type centrifuges with 36" perforate baskets, complete with motors and plows.

1—Western States type 316 SS suspended type centrifuge, complete with 40" perforate basket, plow and SS curb.

1—Patterson-Kelley SS 1000 gal. jacketed reactor.

3—Western States type 316 SS 40" suspended type centrifuge, complete with perforate baskets, plows and motors.

1—Shaples centrifuge Model D-2.

4—Sharples type 316 SS nozljectors with 40 HP explosion proof motors.

1—AT&M 12" suspended type centrifuge, SS.

2—Horizontal rubber lined storage tanks 3000 and 10,000 gal.

1—Sturtevant #7 rotary batch blender, NEW.

1—Nash Hytor vacuum pump Model H-8, NEW.

1—Stokes rotary tablet press, Model RDS-3.

1—Baker Perkins SS termeer centrifuge, Model HS-24.

5—SS double cone jacketed vacuum blenders, 10 cu. ft.

10—Robinson SS double ribbon blenders, 250 cu. ft.

1—Young SS double ribbon blender, 4 cu. ft.

1—Shriver 56"x56" filter press with hydraulic closing device.

1—Sparkler SS filter, Model 8-3.

2—Alsop filters complete with pumps, Model SD-8.

1—Niagara SS jacketed filter, Model 33-12D.

1—Pfaudler 62 sq. ft. thimble type glass lined condensers, NEW.

5—Pfaudler 14 sq. ft. thimble type glass lined condensers, NEW.

5—Pfaudler 9 sq. ft. thimble type glass lined condensers, NEW.

1—Merco SS centrifuge, Model C-9.

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15, 75, 100 & 150 GALS.
DOUBLE ARM MIXERS

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CENTRIFUGALS—12" 30" 40" & 48".
CENTRIFUGES—Sharples #5 & 6 S.S.
DRYERS—Hersey 5' x 26' Rotary Stainless
Stokes vac shelf dryer 22—40"x40" shelves
Buffalo 32" x 90" Double Drum Dryer
Buffalo Vac. Drum Dryer 24" x 20"
Despatch Ovens Elec. Heated.
FILLERS—Powder & Liquid. Also Labelers.
FILTERS—#2 Sweetland Filter.
Niagara S.S. Leaf Filter 45.5 sq. ft.
Oliver Rot. Vac. Filter 3' x 1'.
Hercules Leaf Filter 36" dia.
Ertel 6" & 10" Disc type.
FILTER PRESSES—6" to 36" Iron & Wood.
KETTLES—Stainless Jack. 20 to 500 gals.
Dopp 350 gal. Cast Iron Jack. Vacuum.
Devine Impreg. Units 30" & 36" dia.
Steel Alum & Copper 5 to 2,000 gals.
MILLS—Day HY-R Speed Mill, 30 HP XP.
Raymond #00&0000 Pulverizers
Mikro Pulverizer #4, 2S1, 2TH, 1SH.
Hammer Mills & Pulverizers 3 to 50 HP.
Williams #3 & #2XX Hammer Mills.
Taylor-Stiles 7½ HP Cutter.
Rotary Cutters 1 HP & up.
Sprt-Wald Stainless Spike Crusher.
Pebble, Jar & Ball Mills, Lab to 6' x 8'
3 Roll, 9" x 24", 12" x 30", 16" x 40"
Lehmann 4 Roll W C 12" x 36" Steel.
MIXERS—Baker Perkins 100 gal. Jack.
Baker Perk. 15 gal. horiz. Mixer
Day Imperial 75 & 150 gal. mixers Jack Change Can Mixers 8, 15, 40 gal.
Day Jumbo 700 gal. horiz. Mixer.
Spr. Wald. 10,000 # horiz spiral mixer
Orv Simpson Rotex Sifters 40"x84"
Blystone 3000# horiz. spiral Mixer.
Day 1000# horiz. Dry ribbon Mixer.
Dry Spiral Mixers 50 to 10,000#.
Lancaster 6' dia. 25 HP & #1, 3 HP.
PUMPS—Vacuum 10 to 500 CFM.
Gould 75 HP Centrifugal 250 PSI.
SIFTERS—Day, Robinson Rotex type.
SOAP MACHINERY—Toilet. Laundry. etc.
TABLET MACHINES—Colton 4½ T. etc.
Stokes R single punch & RD1 rotary.
TANKS—Stainless, GL., Lined, Steel.
MISC. Boilers Gas & Oil. Conveyors.

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2—Stokes Rotary Tablet Machines RDS-3.
2—Day 40 gallon S.S. Pony Mixers.
1—Day 2000# S.S. Blender.
1—S.S. 1000 gallon, Jacketed Tank.
24—S.S. Tanks, 75 to 400 gallons.
1—S.S. Jacketed Kettle 300 gallons.
1—Eppenbach 3 H.P. Homo-Mixer.
20—Agitators ¼, ⅓, ½, 3/60/220 V. & 1 Ph. Exp. Pf.

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Complete listings. We buy your surplus.

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MArket 2-3103

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3—Lightnin side entering Mixers with 18" S.S. Blades—5 H.P. each.
1—J. H. Day 5-roll high speed Mill
6—Blackburn-Smith Pressure Leaf Filters, Jktd
1—Copper Evaporator, jacketed, 250 gal.
4—W & P 200 gal. jktd. sigma blade Shredders.
2—Ball & Jewell #2 Cutters.
4—Link-Belt Vibrating Screens 4'x8'.
1—30" Sperry Filter, closed del., 3-eye, 39-plates, 40-frames.
1—42" Sperry Filter 40-plates, 41-frames, hyd. closing, open del.
1—International Ball Mill, porcelain lined, 48"x60", 15 H.P. Unibrake Motor.
1—Sparkler Filter 33-S-28, with Scavenger Plate, steam jacketed, like new.
2—J. H. Day Pony Mixers 00 & 15 gal.
1—Day #10 Cincinnatus Jktd. Sigma Mixer.
1—Patterson Steam Jkt. Ball Mill 42"x36".
1—430 S.S. Tank 3000 gal. vert. ⅜ plate.
2—Vacuum Pumps, Gardner-Denver, 5" bore, 4" stroke, with 7½ H.P. motors.
1—#316 S.S. Reactor 265 gal. jkt.
2—Twin Screw Mixers, 120 gal. jkt.
1—Aetna Water Still, 20 gph—new.

Large stock of new and used high pressure Boilers, Tanks, Pumps, Heat Exchangers, Freon Compressors, Steam Jacketed Kettles, Pulverizers & Autoclaves.

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DRYER — 1250# pigment/hr., stainless Proctor & Schwartz Aeroform.

CENTRIFUGES — 18x18 stainless Bird w/10 HP motor drive.

TANK—630 gallon stainless—unused.

DISSOLVER — Cowles 250 gal. w/10 HP x-proof—unused.

KARBATE HEAT EXCHANGERS —size 3114, 5 pass., 75 psi.

BOILERS — 500 HP, 150 psi, package type, Cleaver Brooks, gas/oil, New '57.

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LAWLER PLACE METUCHEN, N.J.
LIBERTY 9-0245

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1—Patterson 4'x5' jacketed steel ball mill.

2—Ball & Jewell rotary cutters models #1, ½-TD.

1—Hockmeyer 165 gallon post mixer, 5 HP X proof motor.

1—J. H. Day model 71 single deck 40"x84" sifter.

1—50 gallon glass lined jacketed and agitated reactor.

1—McCarter 3'x24' gas fired rotary dryer.

4—80 gallon type 347 stainless steel jacketed ribbon blenders.

1—10,000 gallon stainless steel closed tank.

2—Simpson model #2 intensive mixers jacketed with 6' pans.

1—Baker Perkins 50 gallon jacketed double arm sigma bladed mixer.

1—Sharples Super-D-Hydrator model C20, stainless steel basket, knife and rake.

Write or Phone Your Inquiries

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European Markets. Need of help on-the-spot? French Engineer, (California resident, 10 years top American references) would accept overseas technico-commercial missions; contacts, surveys, inquiries, liaison services, negotiations or other short-term assignments: trouble-shooting, lab duties, etc. George Pannier, 1323¼ South Carondelet, Los Angeles 57, California.

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For Sale: (4)-Stainless Double Effect Evaporators, 608-708-845-1125 sq. ft.; Girdler Votator having three 4" x 46" stainless cylinders; 2' x 6' Stokes stainless Rotary Vacuum Dryer; Best Equipment Co., 1737 W. Howard St., Chicago 25, Illinois.

For Sale—New reconditioned open-head bung type stainless steel and polyethylene drums. We recondition and buy your surplus drums. Edwards Steel Drum, Incorporated, 800 East 134th Street, Bronx, N. Y. MOtt Haven 9-4870.

FACILITIES OFFERED

Custom drying/blending—complete modern drying and blending facilities including Stokes stainless steel jacketed high vacuum rotary dryer fully equipped for solvents recovery. Round-the-clock operation. Reply in confidence to Tennant Development Corporation, 160 Park Ave., New York 17, N. Y.

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For Rent: Paterson, N. J. One Story brick, 26,000 ft. 11,000 ft basement, sprinklered, Hi pressure steam, RR siding, fenced yard, Unrestricted. OPD 299.

Research Development Location. Several buildings available. Isolated area. 12 acres. Abundant water. Midway N. Y.-Phila. Hunterdon Hills. Residence available. R.R. Sidings. Power. Associated Terminal, Pittstown, N. J. Clinton 821.

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Sales Representatives wanted for the following territories: Wisconsin, Minnesota, Missouri, Kentucky, Michigan, Kansas and Indiana and surrounding area to sell complete line of resins to the paint industry and/or a complete line of polyester resins for reinforced plastics. American Alkyd Industries of Illinois, with the newest and largest Synthetic Resin Plant located at Carpentersville, Illinois, is interested in Representatives and Salesmen with definite large volume accounts available. Write full details to: C. J. Hauck, President, American Alkyd Industries, Carlstadt, New Jersey.

SERVICES OFFERED

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FDA Acts on Labels

—Continued from page 7

half of the chemical industry by the Manufacturing Chemists' Association early last month. MCA based its request on the grounds that these products are already subject to labeling control by the Alcohol & Tobacco Tax Division of the Internal Revenue Service and, in the interest of efficiency of administration, it would seem logical that only one agency be made responsible.

In another action, the agency moved to change its labeling requirements for carbon tetrachloride in the light of uses made of this chemical that were overlooked when the regulations were first drawn up.

As originally written, the regulations required inclusion of this warning statement on the label: "Avoid contact with flame or hot surface." It was subsequently brought to the attention of the agency this would be an anomalous statement when the product is used in fire extinguishers.

On the other hand, when carbon tetrachloride is used as a fire extinguisher, poisonous gases such as phosgene result when the product is subjected to heat.

This, therefore, presents a special hazard for which labeling is required for adequate protection of the public health and safety, FDA said.

The agency modified its labeling requirements for this chemical to provide that when carbon tetrachloride is used in fire extinguishers, it must carry the signal word "danger," the additional word "poison" and the skull and cross bones, plus this additional cautionary statement: "Poisonous gases formed when used to extinguish flame or on contact with heat. Use in an enclosed place may be fatal."

The label must also bear the additional precaution: "Do not enter area until well ventilated and all odor of chemical has disappeared."

Trade Name Chemicals & Specialties

—Continued from page 49

improvements in vacuum filtration performance.

A sizable quantity of natural polymers in the form of starch, glue, guar gum and guar gum derivatives is also being used as flocculant in a variety of industries.

In aluminum refining, for example, starch is used to remove "red mud" from suspension after bauxite has been digested by caustic soda. The starch is used mainly in refining of Caribbean bauxite and in other bauxites to a lesser degree. Observers estimate the aluminum industry uses about 30-40 million pounds of starch as a coagulant.

The drastic processing conditions, plus the fact that starch for this application sells at 5.5 to 6c. a pound, makes it a favored material for use. In coal mining, starch has long been used to settle coal dust carried by washery waters.

National Starch & Chemical Corporation produces starch for these industrial applications as well as marketing a specialty coagulant aid under the trademark "Floc-Aid 1063."

Guar gum is marketed for flocculant applications under such tradenames as "Jaguar" (Stein, Hall & Company) and "Guartec" (General Mills).

Guar gums may also find use as flotation reagents, stabilizers, dispersants, suspending agents, viscosity modifiers and film formers, as well as their use as flocculating agents.

Guar a Polymer of Simple Sugars

The material is a polymer of galactose and mannose sugars, chemically termed a galactomannon. It is also usually supplied as a dry powder added to water to form a sol before incorporation into a product or process.

Burtonite Company, Nutley, N. J., has marketed an improved product, "Burtonite 78," which is reported as a guar bean derivative.

The product sells for about one-third the price of the synthetics and is about 20 percent higher than a good quality guar gum.

The material is nonionic and has approval of Public Health Service for use in treating public drinking water, effective at about one-half to two parts per million.

As a flocculant filter aid and auxiliary flotation reagent the product is said to have proven useful also in processing such materials as industrial waste water, clay, borax, uranium, coal, iron and petroleum wastes, alum, and other industrial chemicals.

Monsanto Chemical Company reports the "DX-840" resins (water-soluble copolymers of ethylene and maleic anhydride) are in commercial use as beneficiating agents for oil well drilling clays.

Basis for their use in this application is their reported ability to approximately double the amount of 5-cps mud which can be prepared from a given amount of clay when blended with it at the rate of 0.1 to 0.3 percent.

While this does not represent flocculation in the usual sense, Monsanto points out, it differs in degree only. The viscosity of a clay slurry of given solids content is increased by limited agglomeration of suspended solids.

The agglomerates never reach sufficient size to settle out of the slurry as is the case when some flocculating agents are added.

Although the resins are considered to be in the developmental stage, they are routinely available from a large pilot plant operation, Monsanto reports.

Trade Name Briefs

CLEANERS: Detergent makers aren't alone in keeping a sharp eye on the household market for cleaning and laundering auxiliaries.

A recent study conducted for Owens Illinois Glass Company by the Home Makers Guild of America indicates about 25 percent of today's housewives, who do laundry at home, use a fabric softener, 44 percent of those reporting said they use a rug cleaner, 64 percent make use of ammonia in some form and 74 percent use a liquid detergent.

The Guild survey further discloses that 41 percent of the homemakers use detergents with bluing added, and more than 90 percent voted liquid bleach best for laundering. More than half use liquid starch, while eight out of ten housewives use commercially prepared window cleaner.

EPOXY CHEMICALS: Miller-Stephenson Chemical Company, Danbury, Conn., will market specialty epoxy resin chemicals in the middle Atlantic states for Heyden Chemical Division of Heyden Newport Chemical Corporation.

Heyden's line now includes: "Pentamid" polyamide resins, "Terpox" viscosity modifier for epoxy resin formulations and dodecenylsuccinic anhydride, an epoxy hardening agent.

PAINT PRIMER: Spencer Kellogg Division of Textron Inc. has developed what is termed the first practical water-thinned primer for all exterior wood surfaces.

The new primer, based on Spencer Kellogg's "Linaqua" water-soluble linseed oil paint material, combines linseed oil paint durability with the convenience of water cleanup, the company says.

It's expected that more than fifty paint companies will offer paints using "Linaqua" for the 1962 spring painting season.

SOFTENER: Valchem Chemical Division of United Merchants & Manufacturers is in full production with a new nonionic softener ("Valsof N-76") at Langley, S.C. Valchem reports the new product is designed for use in napping of textiles and has undergone extensive field testing.

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Advertisers' Index

Abbott Laboratories..... 64
Allied Chemical Corporation — Plastics Division..... 50
Allied Chemical Corporation, Solvay Process Division..... 40
American Cyanamid Company, Fine Chemicals Department..... 17
American Cyanamid Company, Intermediates Department..... 51
American Cyanamid Company, Process Chemicals Department..... 61
American Firstoline Corporation..... 39
American Potash & Chemical Corporation.. 40
Amoco Chemicals Corporation..... 18
Apex Chemical Co., Inc..... 67
Arapahoe Chemicals, Inc..... 53
Argueso, M., & Co., Inc..... 66
Arkansas Louisiana Chemical Corp..... 14
Ashcraft-Wilkinson Co..... 65
Baker, H. J., & Bro..... 66
Baker, J. T., Chemical Co.....1, 2
Barclay Chemical Company, Inc..... 72
Bareco Wax Co., Division Petrolite Corporation..... 63
Becco Chemical Division, Food Machinery & Chemical Corp.....39, 42
Better Finishes & Coatings, Inc..... 36
Bios Laboratories, Inc..... 57
Blackman, Stanley, Labs, Inc..... 57
Bower, Henry, Chemical Mfg. Co..... 36
Brill Equipment Company..... 69
Brode Corporation, The..... 67
Bzura Chemical Company, Inc..... 51
California Chemical Company, Oronite Division..... 49
Callery Chemical Company..... 40
Celanese Corporation of America, Chemical Division.....20, 74
Chemical Manufacturing Co., Inc..... 41
Chemical Process Machinery Corp..... 71
Chemical Service Corp..... 72
Chemical Solvents, Inc..... 74
Chemsol, Inc..... 72
Columbia Southern Chemicals (Refer to Pittsburgh Plate Glass Company, Chemical Division).
Columbian Carbon Company..... 13
Commercial Solvents Corporation..... 1
Concord Chemical Company..... 74
Coupe, Robert A..... 43
Cowles Chemical Company..... 27
Croda, Incorporated..... 67
Darling & Co..... 67
Davies Nitrate Co. Incorporated..... 40
Dawe's Laboratories, Inc..... 57
Delhi-Taylor Oil Corp..... 33
Dealite Department, Great Lakes Carbon Corporation.....61, 62
Dickinson, J. Q., & Co..... 57
Distillation Products Industries, Div. of Eastman Kodak Company..... 35
DuPont de Nemours, E. I., & Co., (Inc.)..47, 48
Duval Sulphur & Potash Co..... 65
Eastman Chemical Products, Inc.....19, 61
Eco Engineering Co..... 42
Emery Industries, Inc..... 60
Enjay Chemical Company, A Division of Humble Oil & Refining Company..... 12
Equipment Clearing House, Inc..... 68
Fairmount Chemical Co., Inc..... 57
Fiber Chemical Corporation..... 74
First Machinery Corp..... 69
Fisher Chemical Co., Inc..... 74
Fritzsche Brothers, Inc..... 58
Gane's Chemical Works, Inc..... 53
Gelb, R., & Sons, Inc..... 71
General Mills, Inc..... 49
Givaudan-Delawanna, Inc..... 59
Gulf Oil Corporation..... 48
Harchem Division, Wallace & Tiernan, Inc.. 66
Harshaw Chemical Co., The..... 47
Heat & Power Co., Inc..... 68
Henry, J. F., Chemical Co., Inc..... 43
Hercules Powder Company, Incorporated... 51
Hoffmann-La Roche, Inc..... 52
Hooker Chemical Corporation..... 39
Houston Chemical Corporation..... 48
Hutchinson, D. W., & Co., Inc..... 58
Industrial Raw Materials Corp..... 63
International Flavors & Fragrances, Inc..29, 30
Jefferson Chemical Company, Inc..... 25
Kay-Fries Chemicals, Inc..... 57
Keunen, Koster, Inc..... 67
Lawler Company..... 71
Lebanon Chemical Co..... 65
Lemke, B. L., & Co., Inc..... 57
Lever Brothers Company..... 48
Loeb, H., & Son..... 71
Lucidol Division, Wallace & Tiernan, Incorporated..... 48
Machinecraft Corp.....68, 70
Machinery & Equipment Co., The..... 71
Magnus, Mabee & Reynard, Inc..... 58
Meer Corporation..... 55
Merck & Co., Inc..... 41
Mercury Chemical Corp..... 73
Michigan Chemical Corporation..... 43
Miles Chemical Company Division, Miles Laboratories, Inc..... 11
Minute Maid Corporation, Citrus Products Division..... 59
Mississippi Lime Company..... 41
Morton Chemical Company..... 8
Nepera Chemical Co., Inc..... 57
Neville Chemical Company..... 74
Norda Essential Oil & Chemical Company, Inc..... 21
Nysco Laboratories, Inc..... 55
Old Dutch Mustard Co., Inc..... 59
Olin Mathieson Chemical Corporation (Mathieson Chemicals).....37, 38
Pan American Sulphur Company..... 40
Pearsall Chemical Corp..... 42
Penick, S. B., & Company.....54, 58
Pennsalt Chemicals Corporation, Industrial Division..... 1
Pennsylvania Refining Company..... 62
Perry Equipment Corp..... 70
Philadelphia Quartz Company..... 43
Philipp Brothers Chemicals, Inc..... 39
Pitt-Consol Chemical Co..... 15
Pittsburgh Plate Glass Company, Chemical Division..... 36
Pittsburgh Plate Glass Company, Industrial Division..... 42
Plastics Division, Allied Chemical Corporation..... 50
Polak's Frutal Works, Inc. (PFW)..... 58
Prior Chemical Corporation..... 1
Process Plants Service, Inc..... 68
Procter & Gamble Co..... 48
Publicker Industries, Inc..... 10
Raney Catalyst Co..... 48
Read, Chas. L., & Co., Inc..... 62
Reichhold Chemicals, Inc..... 60
Reilly Tar & Chemical Corporation..... 6
Riches-Nelson, Inc..... 74
Richter, Gedeon Pharmaceutical Products, Inc..... 57
Ross, F. H., & Co..... 40
St. Joseph Lead Co..... 61
Sergeant, E. M., Pulp & Chemical Co., Inc.. 42
Snow, N. J., Equipment Co..... 68
Spencer Chemical Company..... 47
Standard Collapsible Tube Co..... 62
Stein Equipment Co..... 71
Strohmeyer & Arpe Co..... 67
Sunkist Growers, Inc..... 23
Sunray Oil Company..... 68
Synthetic Products Company..... 61
Tenneco Oil Company.....45, 46
Tennessee Corporation..... 31
Titanium Alloy Mfg. Division, National Lead Company..... 43
Union Carbide Chemicals Company, Division of Union Carbide Corporation..... 1
United Box & Lumber Co..... 42
U. S. Borax & Chemical Corporation..... 1
U. S. Steel Corp..... 51
United Ultramarine & Chemical Company, Inc..... 61
Ventura Processors..... 22
Welch, Holme & Clark Company, Inc..... 67
Western Mica Corporation..... 62
Wolf, Bill, Inc..... 68
Wood Ridge Chemical Corporation..... 72
Wyandotte Chemicals Corporation..... 42

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Report From Europe

Drug Patents: A Middle Way for UK?

—*Continued from page 5*

root cause of the price difficulties in the National Health Service is the long monopoly granted on a drug patent.

A procedure for obligatory licensing after varying periods would be much better for the industry than the direct attack on the whole principle of patent protection by unlicensed imports.

Glaxo, Sir Harry adds, now usually opens its UK patents for licensing after ten years.

As one part of this scheme, valuable drugs of quite restricted medical applications might be granted monopoly patent lives of considerably longer than sixteen years as a means of encouraging companies to develop products with limited commercial markets.

Widely used drugs, or such products as antibiotics which are mainly re-combinations of existing products, might be forced open for licensing after a relatively few years. The patent holder, obviously, would receive a royalty from the licenses for the full life of the patent.

London's leading business paper, The *Financial Times*, comments that Sir Harry's proposal, "if it is indeed workable in practice, would be greatly preferable to the arbitrary expedient of which the minister is making use at present."

Presumably a hearings procedure would be set up in the Patent Office and companies could make application for licenses to the office.

The patents holding firm would then present evidence to support a continued monopoly—such as the cost of developing the product or the long period of research, and the examiner would make a decision for or against compulsory licensing.

Lone obvious result of such procedure would be to accelerate the speed with which prices fall on popular newly-developed drugs.

The decision of the Minister of Health to buy five types of drugs from Danish and Italian unlicensed producers has been under sustained attack by the pharmaceutical industry and by a number of members of Parliament.

The main producers of the five products and the UK patent holders, are four wholly-owned subsidiaries of American drug companies.

One of these, Pfizer, Ltd., subsidiary of Chas. Pfizer & Co., is suing the minister to test the legality of his action.

The unlicensed drugs are being purchased under an act allowing the government to set aside the patent law for national purposes. It has been applied only to defense goods in the past.

The government will negotiate royalties with the UK patent holders and, if the negotiations fail, the royalty will be set by a court.

Food Additives Trade Has a Query

—*Continued from page 3*

raw materials, catalysts and the like described by the petitioner, except insofar as these items are set forth in the regulation.

"It seems to me that if the petitioner is required to submit all of this information to FDA, others who make similar products should be required to do likewise. At the very least, they should be required to establish that their product is identical with the product which underwent safety tests for its intended use.

"It is entirely possible that a product meeting the specifications of a regulation but made in another manner might differ in some respects from the product which was originally subjected to safety-testing.

A Question of Degree

"Admittedly many such variations would be of no significance. If any such variations should prove harmful, however, confidence in the ability of the law to protect the public would be greatly undermined."

In a question-and-answer period just before the close of the conference, Mr. Mulford was asked to clarify his point and say whether he had in mind that food additive petitions should be handled much in the same manner that new drug applications are handled by FDA—that is, should each applicant submit data on testing of his product?

Mr. Mulford said that he is not advocating the new drug procedure with its repetitive testing, but only some procedure that will assure the public that the additive conforms to the specifications approved by FDA.

In the question-and-answer period, a number of other matters involving the food additives law and the hazardous labeling law were touched upon. They included the following, with answers by FDA spokesmen:

If a household article contains a known poison as an ingredient, but the final product has never been known to cause any hazard, does it come within the purview of the hazardous articles labeling law?

The final product controls in this situation. If it is not in itself a hazardous product, it is not covered by the law.

What is the level of safety for free fatty acids as additives under the food additives law?

No definite answer can be given on this. This is a matter that is still under close study by industry and FDA.

What information is available to the FDA on the migration of printing inks on cellophane packaging into foods?

There is no general statement that can be applied to this. Under ordinary circumstances when the ink is in contact with the food there is migration.

What About Label Law Exemptions

Do exemptions under the hazardous labeling law apply to like or similar products generally?

FDA needs experience on this point, but its purpose will be to grant exemptions on the broadest basis possible. FDA plans to publish exemptions in the *Federal Register*, but it does not intend to publish denials of petitions for exemption.

How does FDA reconcile the conflict between permitting tolerances in foods resulting from radio activity and the Delaney clause that outlaws any food containing a carcinogin?

The Delaney clause applies only to intentional additives that fall in the class of a carcinogen, not to those resulting from natural causes.

Does FDA now believe that the Delaney clause is unworkable and is it ready to advocate its repeal?

FDA does not believe the clause is unworkable; it is because it is workable that the shoe is beginning to pinch. It is not ready to recommend its repeal except in the case of animal feeds where it can be shown that the carcinogen is not a hazard to the animal or the food of animals.

If FDA is now able to measure pesticide residues down to the level of trillions of "a gram, how long will it be before the government begins to seize milk?

FDA is not looking for the smallest amounts of residues of a pesticide in milk. It is looking only for residues of "significant" amounts.

Can a product be exempted from the hazardous labeling law by reason of the shape of its container or closure?

Yes. The physical characteristics of the package or the closure are significant in determining whether a product might be subject to the law. Applications for exemption will be considered where it is shown that the physical characteristics of the product reduce its hazardous properties.

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